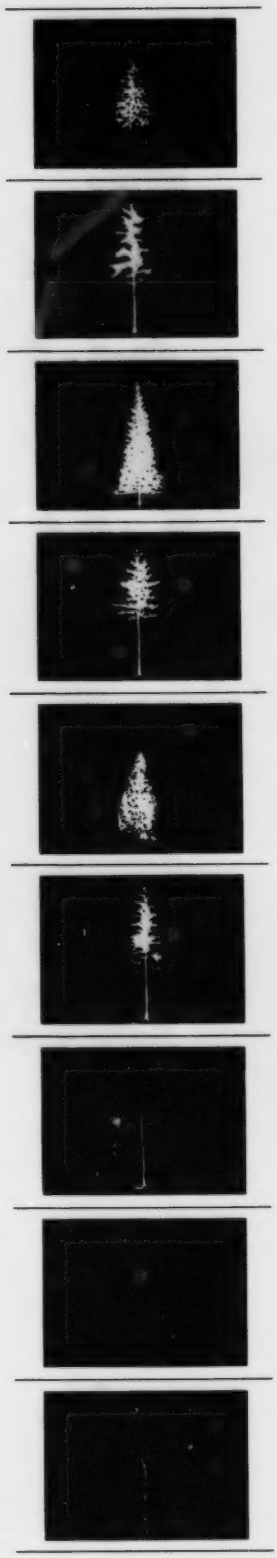
Forestry Canada Forêts Canada



# Canada's Forest Inventory 1986

FORSTATS

Canada

## Forestry Canada

Forestry Canada is the main focus for forestry matters in the federal government. It provides national leadership through the development, coordination, and implementation of federal policies and programs to enhance long-term economic, social, and environmental benefits from the forest sector for Canadians.

Forestry Canada is a decentralized organization with six regional forestry centres, two national research institutes, and seven regional sub-offices located across Canada. Headquarters is located in the National Capital Region, in Hull, Quebec.

In support of its mandate, Forestry Canada carries out the following activities:

- Administers forest development agreements negotiated with the provinces
- Undertakes and supports research, development, and technology transfer in forest management and utilization
- Compiles, analyzes, and disseminates information about national and international forest resources and related matters
- Monitors disease and insect pests in Canada's forests
- Provides information, analyses, and policy advice on economics, industry, markets, and trade related to the forest sector
- Promotes employment, education, and training opportunities in the forest sector
- Promotes public awareness of all aspects of the forest sector.

Forestry Canada interacts regularly with provincial and territorial governments, industry, labor, universities, conservationists, and the public through such bodies as the Canadian Council of Forest Ministers, the Forest Sector Advisory Council, the Forestry Research Advisory Council of Canada, the Canadian Forest Inventory Committee, the Canadian Committee on Forest Fire Management, the Canadian Interagency Forest Fire Centre, and regional consultative committees. Forestry Canada is also active in international forestry agencies such as the international Union of Forest Research Organizations and the Food and Agriculture Organization, as well as in technical and trade missions.

## FORSTATS

Forestry Canada Forest Resource Data (FORSTATS) Program is responsible for the compilation and interpretation of national data on the forest resource and on changes to it resulting from both natural and human activities. Major components of the FORSTATS Program include statistics on forest inventory, forest depletions, forest growth, regeneration, forest management activities, forest management expenditures, and forest industrial activity, which includes a broad range of economic indicators.

The six regional centres and two national institutes participate with the Headquarters of Forestry Canada in the FORSTATS Program. Provincial forest management agencies, other federal and provincial agencies, and forest industries cooperate by providing data to the program.

# Canada's Forest Inventory 1986

Prepared by Forestry Canada in cooperation with the Canadian Forest Inventory Committee

Forestry Canada
1988

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Forestry Canada was formerly known as the Canadian Forestry Service. This change of name identifies with the new federal Department of Forestry which was created in 1988.

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# Foreword

Up-to-date information on the state of Canada's forest resource is a vital prerequisite to its effective stewardship, management, and utilization. For Canada's forest industry to remain internationally competitive, it must be able to rely upon an adequate and well-managed resource on a sustained basis. It is through inventory programs and other related forestry statistics-gathering activities that Canada is able to determine the condition of the resource, its rate of growth, and the effectiveness of the various forest management measures that are being applied to it.

Canada's Forest Inventory 1986 summarizes data on the extent, ownership, productivity, species composition, maturity, and volume of the forest resource in all regions across the country. This report contains the most up-to-date information available, and is more comprehensive than previous inventories. It is the second of these periodic reports to be produced with the use of modern computerized mapping technology. Like the previous report of 1981, the 1986 report includes maps as well as statistics to provide an update on the forest resource of Canada.

The production of this report has been made possible through the continuing collaboration of the provincial and territorial forestry agencies who have responsibility for the conduct and compilation of inventory data within their jurisdictions. The vital support of these agencies, and of the numerous individuals involved in all stages leading to the compilation of this national forest inventory, is gratefully acknowledged.

J.C. Mercier
Deputy Minister
Forestry Canada

# Preface

Canada's Forest Inventory has evolved during this century as better information has become available. The 1986 version covers virtually all forested areas throughout the country. It uses a summary of the best information currently available to the forest management agencies – mostly provincial, territorial and federal forest services cooperating within the Canadian Forest Inventory Committee (CFIC).

The 1986 Inventory is the latest of a series of periodic reports; recent revisions being on a 5-year cycle. Before the 1981 inventory, each report stood alone as a complete statement of the information collected. Now the data are more detailed and reside in a computer so this report is an overview of the current inventory, and a sample of the information that can be generated. Knowledge need no longer be restricted to what has been published. Statistics and maps can be generated for new questions and the inventory can be combined with other resource data or with various socio-economic themes.

The 1986 inventory is based on a wealth of data on the country's forest resource. Requests for special summaries of these data are welcomed, and should be addressed to:

Forest Inventory Project
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Forestry Canada
Box 2000, Chalk River, Ontario K0J 1J0

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Department of Natural Resources

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Department of Natural Resources and Energy

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# Highlights

1. The total area of Canada is 997 million ha. Of this, 45% or 453 million ha is forest land.

2. Of the 398 million ha of inventoried land base, 244 million ha are productive forest land. Of this area:

   - Most inventories (52% by area) are less than 10 years old; a few (3% by area) are more than 20 years old.

   - About 80% is provincially owned, 11% federally owned, and 9% is privately owned.

   - 8.9 million ha or 4% is reserved.

   - 218 million ha or 89% is confirmed by inventory to be stocked.

   - On the stocked, productive forest land:

     (a) Maturity classification is as follows: regeneration – 6%, immature – 37%, mature – 40%, and overmature – 6%. Eleven percent of the area is not classified by maturity.

     (b) Site classification is as follows: Class 1 (the lowest) – 22%, Class 2 – 26%, Class 3 – 16%, Class 4 or better – 2%. Thirty-four percent of the area is not classified by site quality.

     (c) Forest type classification is as follows: softwood – 63%, mixedwood – 23%, and hardwood – 14%.

     (d) The gross merchantable wood volume is 24 billion $m^3$; 76% is coniferous and 24% deciduous. The predominant species groups are spruce – 31%, pine – 18%, aspen/poplar – 13%, and firs – 12%.

# Faits saillants

1. La superficie totale du Canada est de 997 millions d'hectares dont 45 % ou 453 sont occupés par des terrains boisés.

2. 244 des 398 millions d'hectares de terres inventoriés sont des terrains forestiers productifs. De ce total,

   - La plupart des inventaires (52 % de la superficie) ont moins de 10 ans; quelques-uns (3 %) datent de plus de 20 ans.

   - Environ 80 % appartient aux provinces, 11 % au gouvernement fédéral et 9 % au secteur privé.

   - 8,9 millions d'hectares ou 4 % sont des terres réservées.

   - 218 millions d'hectares, ou 89 %, sont boisés, selon un inventaire.

   - Sur les terrains forestiers productifs :

     (a) La répartition des classes de maturité est la suivante : régénération, 6 %; jeune, 37 %; mûr, 40 %; et surâgé, 6 %. 11 % de cette superficie n'a pas encore été classée.

     (b) La répartition des classes de station est la suivante : classe 1 (classe inférieure), 22 %; classe 2, 26 %; classe 3, 16 %; classe 4 et plus, 2 %. La qualité de la station de 34 % de la superficie boisée totale n'a pas été déterminée.

     (c) La répartition des types forestiers est la suivante : résineux, 63 %; mélangé, 23 %; et feuillu, 14 %.

     (d) Le volume ligneux marchand brut est de 24 milliards de mètres cubes, dont 76 % de résineux et 24 % de feuillus. Les groupes d'essences dominants sont l'épinette (31 %), le pin (18 %), le peuplier (13 %) et les sapins (12 %).

# Introduction

This report is the official document on Canada's forest inventory. It is the latest in a series produced at approximately 5-year intervals and supersedes all previous reports. It is similar to its predecessors in that it focuses on the areas and wood volumes that support Canada's forest industry and are therefore of greatest economic interest. In addition to primary information on areas and wood volumes, the availability of auxiliary information is reported for the first time on stocking, productivity, cull, tree size/volume relationships, and policy constraints to resource management. As in past reports, emphasis is placed on the objective presentation of the most pertinent data with little attempt at interpretation.

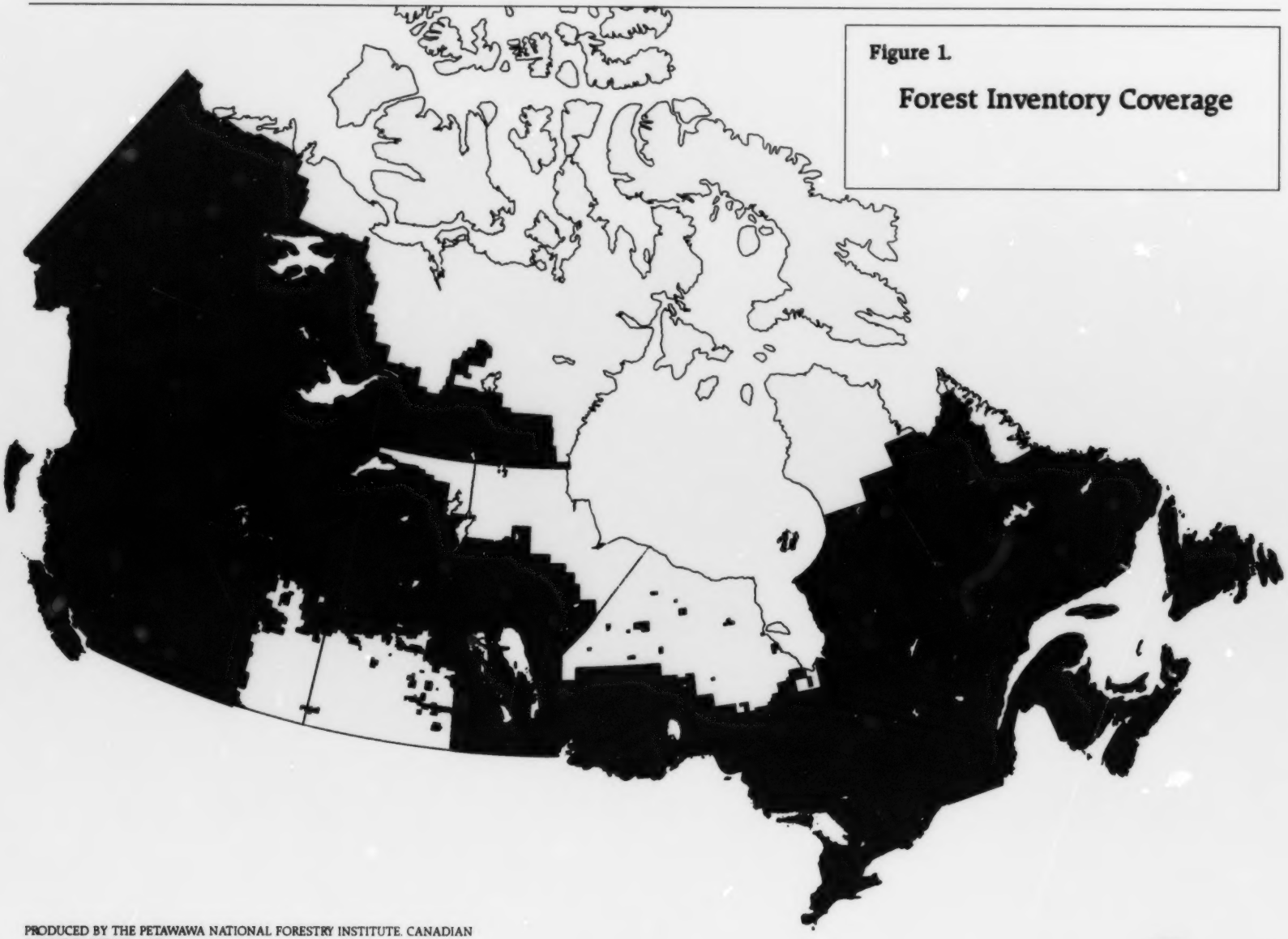
Prior to 1981, national forest inventories had been compiled on the basis of questionnaires completed by the provincial and federal agencies responsible for forest management across Canada. A computer-based system was used to summarize detailed data from the provincial and federal forestry agencies for the creation of Canada's Forest Inventory 1981. Maps and more detailed and accurate tabular summaries than had been produced before were prepared, using the Canadian Forest Resource Data System (CFRDS), and these capabilities are reflected in this report.

Comparisons with earlier reports to estimate changes are likely to be misleading because apparent changes may reflect differences in methodology or extent of forest inventory rather than real changes in the resource. The extent of Canada's Forest Inventory 1986 is illustrated in Figure 1 and is contrasted to the extent of Canada's Forest Inventory 1981.

Consistent, well defined terminology is essential to understanding. The terminology used in this report is consistent with that adopted by the Canadian Forest Inventory Committee (Haddon 1988). A glossary is provided in Appendix 2. Terms in the glossary are printed in **bold** the first time they appear in the report.

**Figure 1.**

## Forest Inventory Coverage



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SOURCE: CANADIAN FOREST RESOURCE DATA SYSTEM

THE INFORMATION MAPPED IS THE EXTENT OF THE 1981 AND 1986 NATIONAL FOREST INVENTORIES

1981 and 1986

1986 only

# Results

## National Totals

A forest is defined as a plant community of predominantly trees and other woody vegetation, growing more or less closely together (Haddon 1988). Of Canada's total area of 997 million ha, about 45% (Figure 2) is classified as **forest land**, i.e. land primarily intended for growing, or currently supporting, forest. Noninventoried forest land (where the forest resources have not been considered worth the cost of an inventory) amounts to about 10% of the total forest land. About 38% of the inventoried forest land is classified as **unproductive** (incapable of producing a merchantable crop within a reasonable length of time). Volumes on unproductive forest land are not estimated.

Canada's inventoried forest base consists of 244 million ha of **productive** forest land and a total volume of 24 billion $m^3$. More detailed information is presented in Table 1.

The inventory of productive forest lands in Canada and the forests they support are described in the next four sections. Various tabular summaries of inventory data are presented in Appendix 1.

**Table 1. National totals of areas and wood volumes**

| Province or Territory | Area of Land* | Area of Water* | Total Area* | Area of Forest Land | | | Inventoried Productive Forest Land*** | |
|---|---|---|---|---|---|---|---|---|
| | | | | Inventoried | Non-inventoried | Total | Area | Volume |
| | 100 000 ha | | | | | | 1 000 000 $m^3$ | |
| Newfoundland | 372 | 34 | 406 | 225 | 0 | 225 | 112 | 530 |
| Prince Edward Island | 6 | 0 | 6 | 3 | 0 | 3 | 3 | 26 |
| Nova Scotia | 53 | 3 | 55 | 40 | 0 | 40 | 38 | 244 |
| New Brunswick | 72 | 1 | 73 | 63 | 0 | 63 | 61 | 571 |
| Quebec | 1 357 | 184 | 1 541 | 825 | 115** | 940 | 548 | 4 250 |
| Ontario | 891 | 177 | 1 069 | 466 | 341** | 807 | 383 | 3 695 |
| Manitoba | 548 | 102 | 650 | 251 | 98** | 349 | 149 | 736 |
| Saskatchewan | 571 | 82 | 652 | 237 | 0 | 237 | 159 | 964 |
| Alberta | 644 | 17 | 661 | 377 | 0 | 377 | 254 | 2 952 |
| British Columbia | 930 | 18 | 948 | 603 | 0 | 603 | 511 | 9 021 |
| All Provinces | 5 444 | 618 | 6 061 | 3 091 | 554 | 3 644 | 2 218 | 22 989 |
| Yukon Territory | 479 | 4 | 483 | 274 | 0 | 274 | 76 | 486 |
| Northwest Territories | 3 293 | 133 | 3 426 | 614 | 0 | 615 | 143 | 446 |
| Canada § | 9 215 | 755 | 9 971 | 3 979 | 554 | 4 533 | 2 437 | 23 921 |

* Source: Canada Year Book (1985)
** Source: CFS estimates
§ Totals may not add due to rounding
*** Source: Canadian Forest Resource Data System

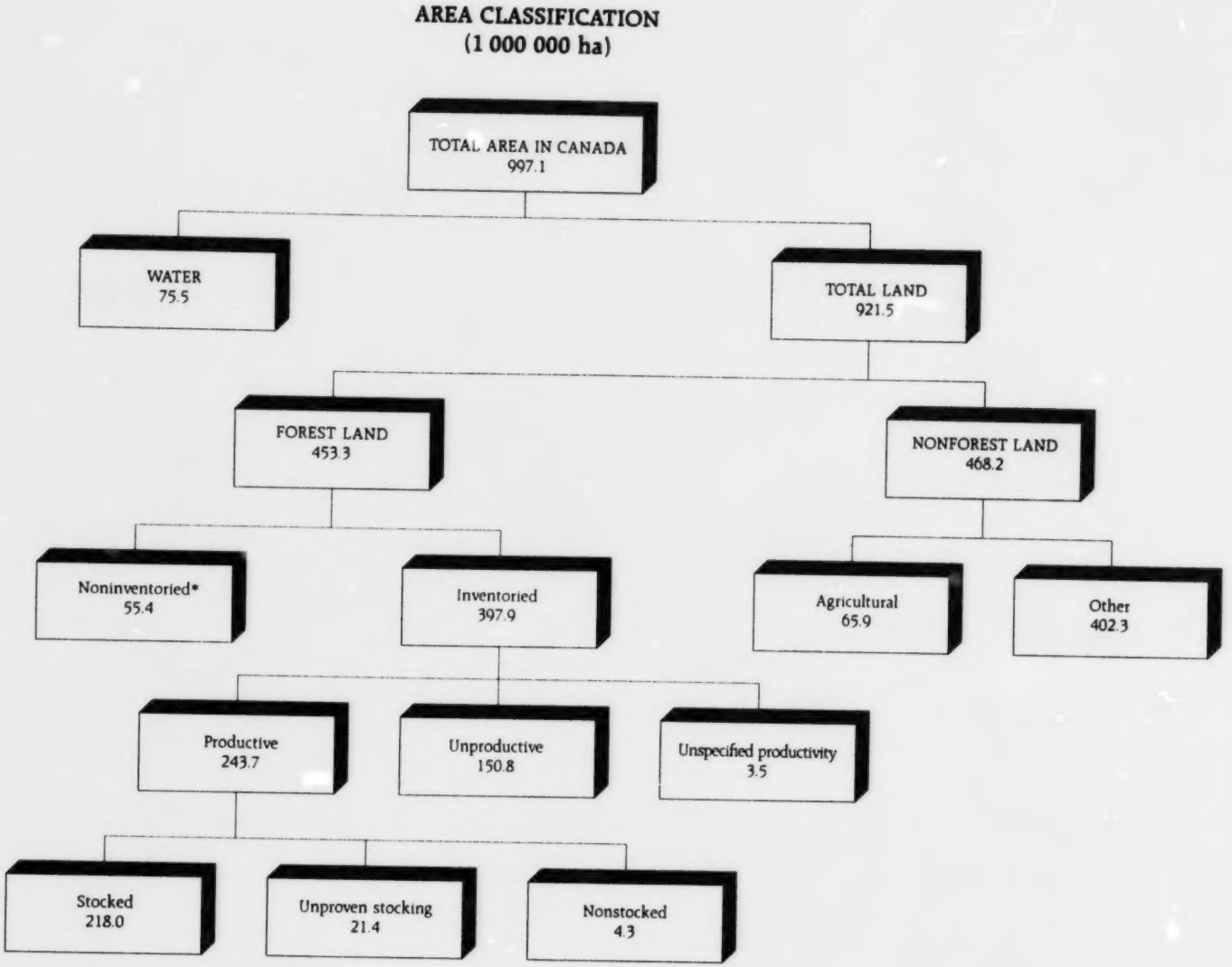



**Figure 2. Area Classification in Canada, 1986.**

Sources: Canadian Forest Resource Data System and Canadian Forestry Service estimates.(*)
Totals may not add up due to rounding.

**Productive Forest – Area Inventory**

Productive forest is limited by soils, climatic conditions and human activity. The distribution of productive forest land in Canada is illustrated in Figure 3. Its extent and nature are explored below.

*Ownership*

Responsibility for forest management rests with the forest owner. Most of the productive forest land is publicly owned (Figure 4). Of the 244 million ha of productive forest land, 80% is provincially owned, 11% federally owned, and the remainder is privately owned.

Private ownership is concentrated east of the Manitoba/Ontario border. Prince Edward Island has a higher ratio of private ownership to other classes of ownership than any other province or territory. About 92% of the productive forest land of Prince Edward Island is privately owned.

*Status*

Direct control of **nonreserved** forest land may be **assigned** to forest industry or **retained** by the Crown. All private lands are classified as nonreserved.

About 4% of the productive forest land is classified as **reserved** (i.e. no timber harvesting is permitted), mostly national and provincial parks (Figure 4). This is approaching one and one half times the area of productive forest land in New Brunswick.

*Site*

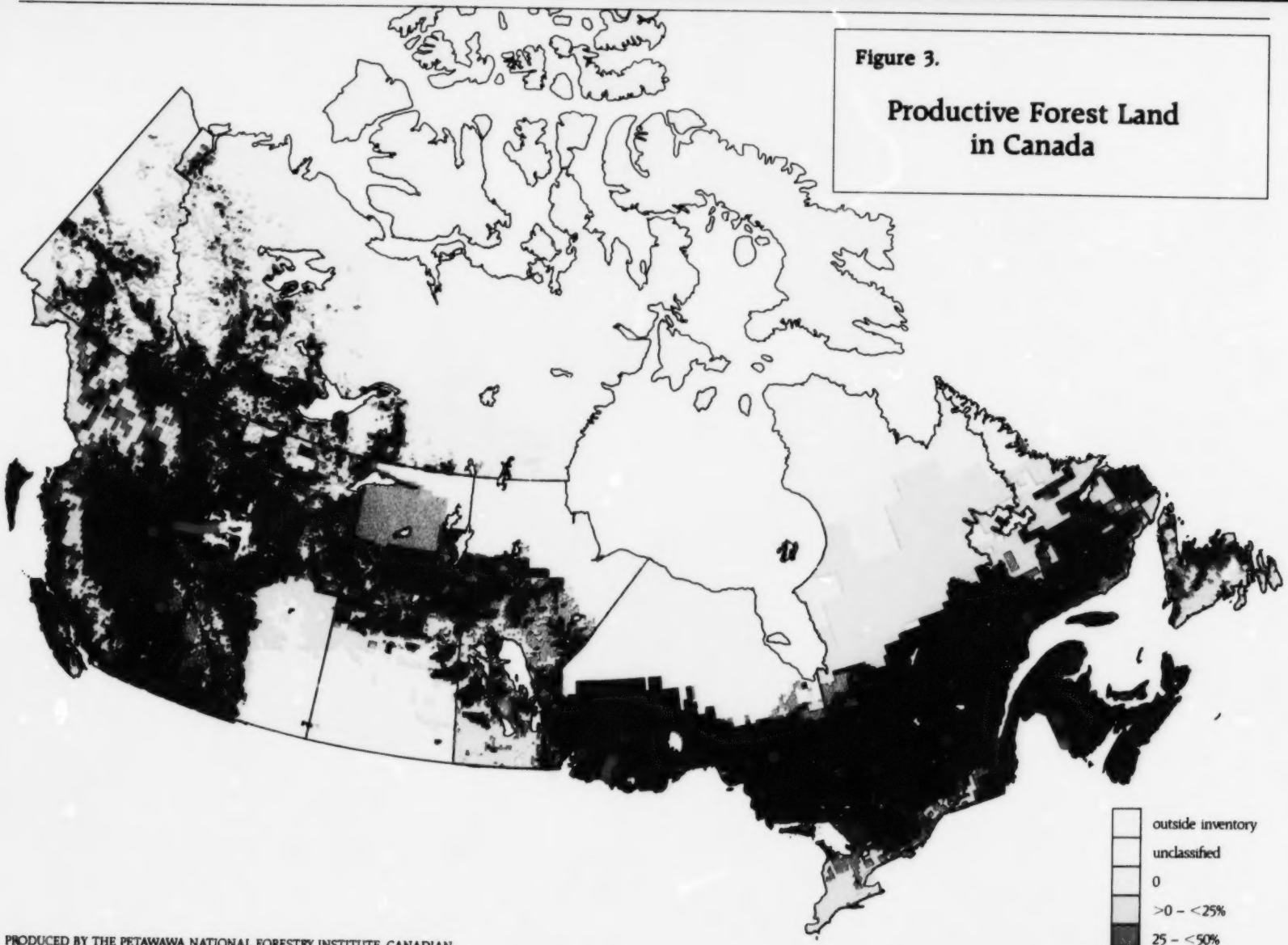
**Site quality** is a measure of the relative productive capacity of a site for one or more species. Various systems are in use across Canada for the classification of site quality. **Site index** is an expression of forest site quality based on the height, at a specified age, of dominant and codominant trees in a stand. The following site index classes are used in Canada's Forest Inventory:

| Site Class | Dominant Tree Height at Age 50 Years |
|---|---|
| 1 | 5.0 – 9.9 m |
| 2 | 10.0 – 14.9 m |
| 3 | 15.0 – 19.9 m |
| 4 | 20.0 – 24.9 m |
| 5 | 25.0 – 29.9 m |
| 6 | 30.0 – 34.9 m |
| 7 | 35.0 + m |

Thus, the higher the site index class number, the better the site quality.

**Figure 3.**

## Productive Forest Land in Canada

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SOURCE: CANADIAN FOREST RESOURCE DATA SYSTEM

PRODUCTIVE FOREST LAND IS EXPRESSED AS A PERCENTAGE OF THE TOTAL AREA.

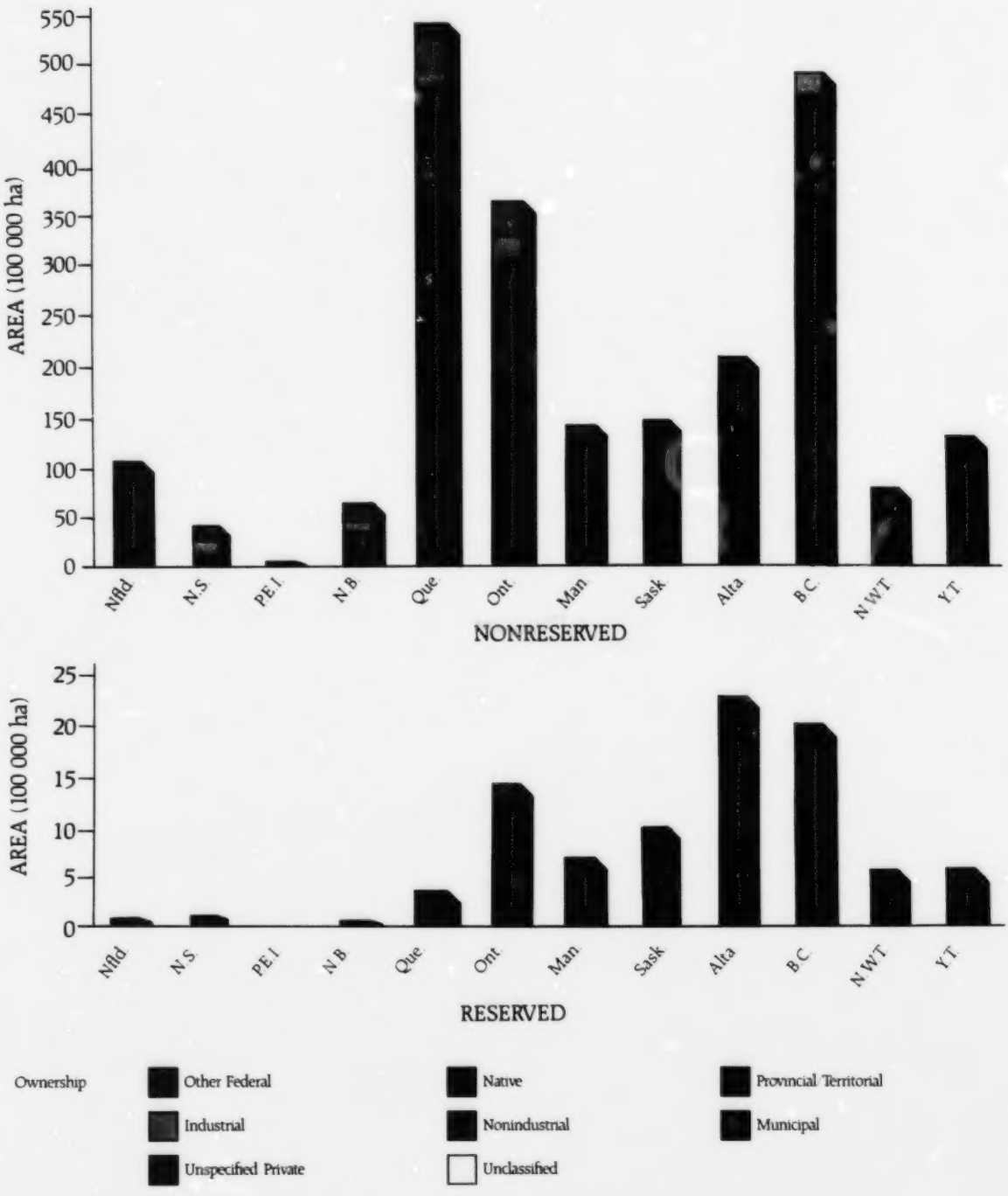



**Figure 4. Areas of Productive Forest Land by Province, Status, and Ownership**

Available site class data are summarized in Figure 5. Most of the productive forest land in Canada is in site classes 1, 2, and 3. The highest site classes are small in area and occur mostly in British Columbia.

*Stocking*

**Stocking** is a qualitative expression of the adequacy of tree cover on an area in relation to a pre-established norm. Forest land classified as **stocked** in Canada's Forest Inventory 1986 may be **fully stocked, partially stocked**, or **unquantified stocked**. In addition to stocked and **nonstocked**, a class known as **unproven stocking** has been recognized for forest land that has had the tree cover removed or killed and for which the subsequent level of stocking has not been assessed and recorded in the inventory. A detailed breakdown of the unproven stocking category is available from analysis of the auxiliary stocking data as described in page 36. Areas of productive forest land by stocking class are summarized in Figure 6.

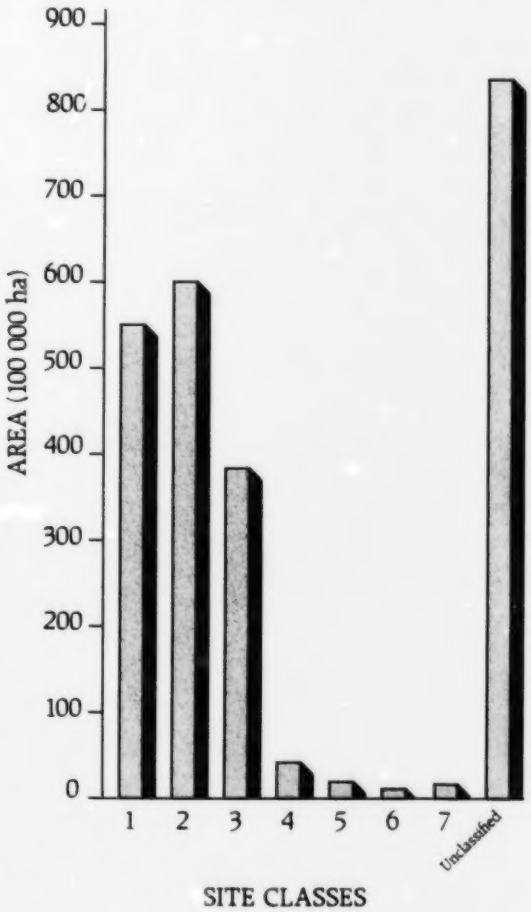



**Figure 5. Areas of Productive Forest Land by Site Classes**

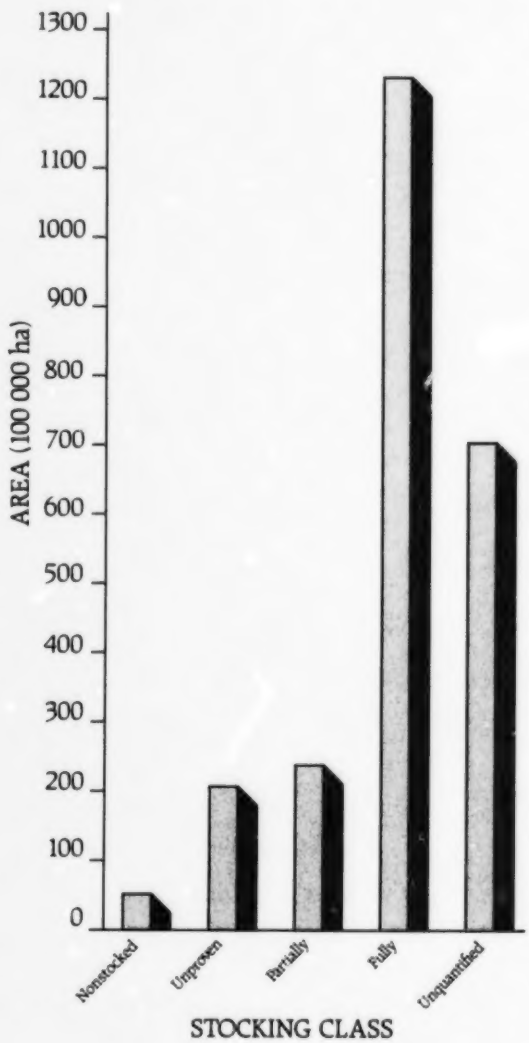



**Figure 6. Areas of Productive Forest Land by Stocking Classes**

About 89% of the productive forest land in Canada has been confirmed by inventory to be supporting forest.

*Age Class*

Two attributes are used in Canada's Forest Inventory to classify forest age: **age class** and maturity class. Age, based on ring counts, is recorded by 20-year age classes. Although this is an objective measure of forest age, it does not allow meaningful comparisons across the country because of the different rates of development of different regions and species.

The maturity classification is somewhat subjective and is really an expression of management opinion based on age and other factors, but it does allow national comparisons. The **mature** and **over-mature** classes, along with part of the **uneven-aged** class, represent the areas ready for harvest.

The age class and maturity class data are summarized in Figures 7 and 7a. Most of Canada's forests are **even-aged** because the species of which they are comprised are adapted to develop after a fire, harvest, or other widespread disturbance. Less than 1% of the productive forest land in Canada is classified as uneven-aged.

*Forest Composition*

Forested areas or stands are usually classified according to **forest type**. Three forest types are recognized in Canada's Forest Inventory: **softwood** (in which 76-100% of the canopy is coniferous), **mixedwood** (in which 26-75% of the canopy is coniferous), and **hardwood** (in which 0-25% of the canopy is coniferous).

The **predominant genus** is the most abundant genus in a forest area. It is taken from the first-named species in each cover type description in the source inventories.

Forest type and predominant genus codes used in combination give a reasonable description of the **forest composition**. For example, softwood spruce is distinguishable from mixedwood spruce.

Spruce or pine predominates in approximately 21% of the mixedwood forests, while poplar or birch predominates in another 25% of the mixedwood forests.

The distribution of forest types and the extent of forest type and predominant genus combinations are illustrated in Figures 8 and 8a.

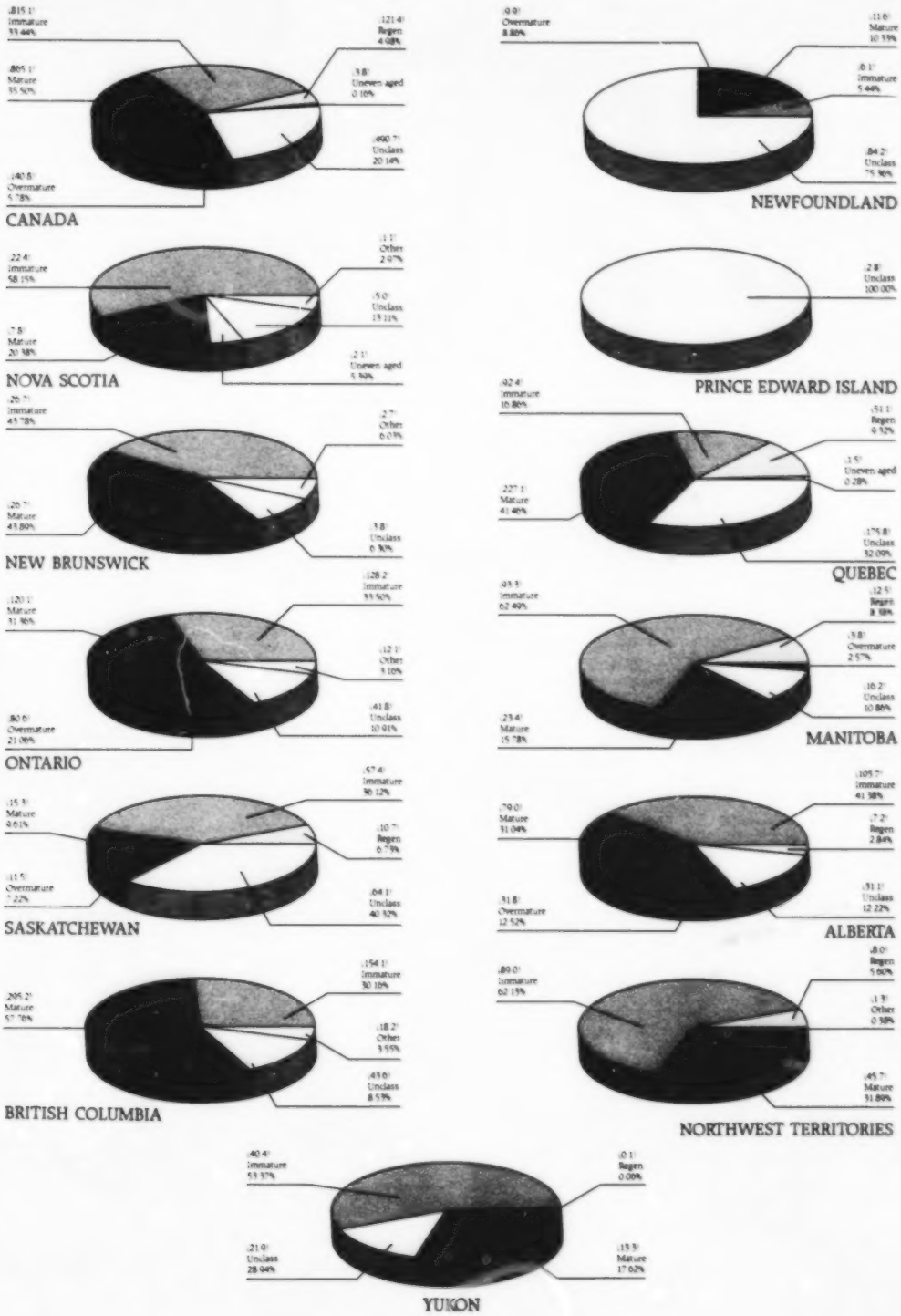
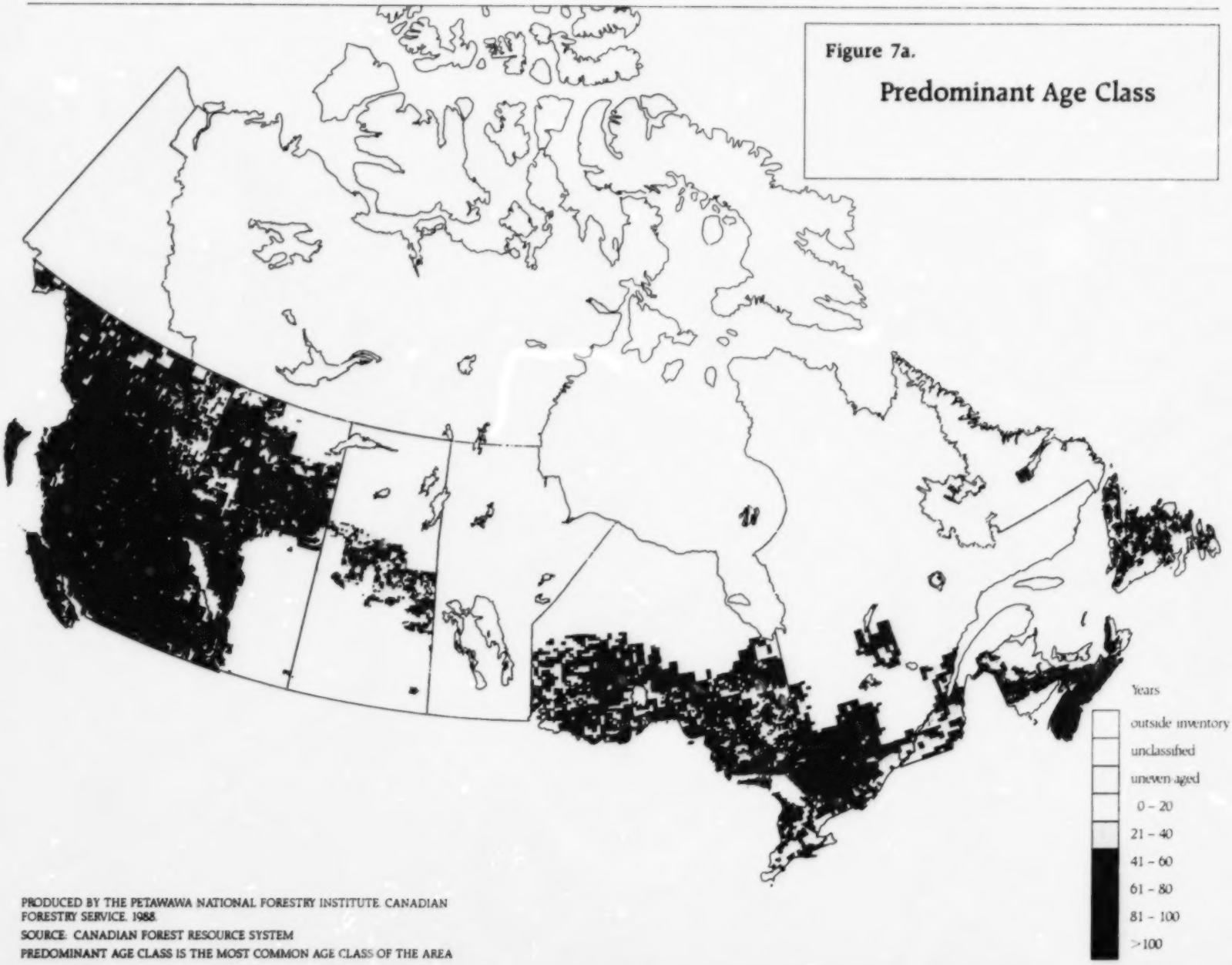





**Figure 7. Area of Productive Forest Land By Maturity and Age Classes (100 000 ha)**

**Figure 7a.**

## Predominant Age Class

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SOURCE: CANADIAN FOREST RESOURCE SYSTEM

PREDOMINANT AGE CLASS IS THE MOST COMMON AGE CLASS OF THE AREA

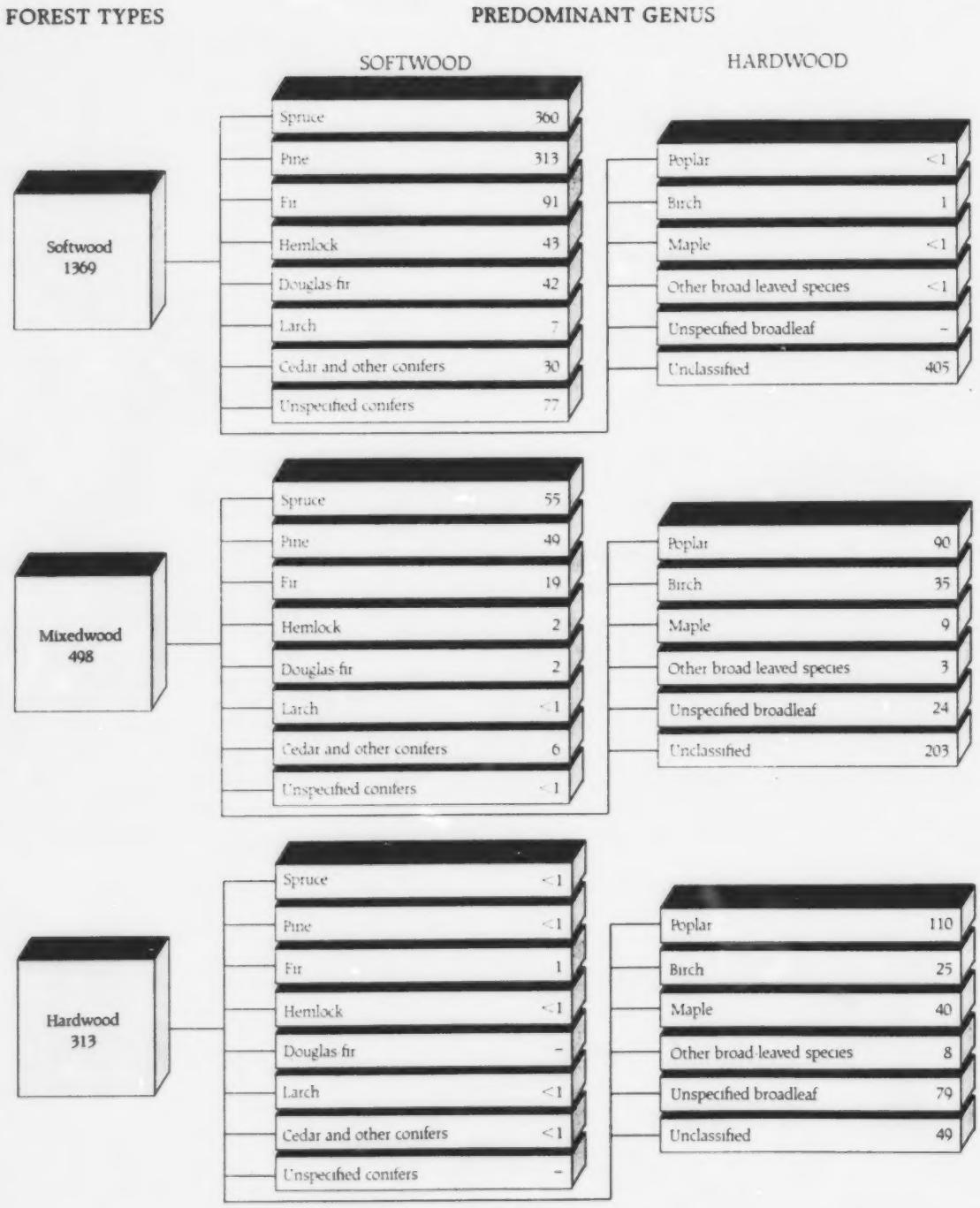
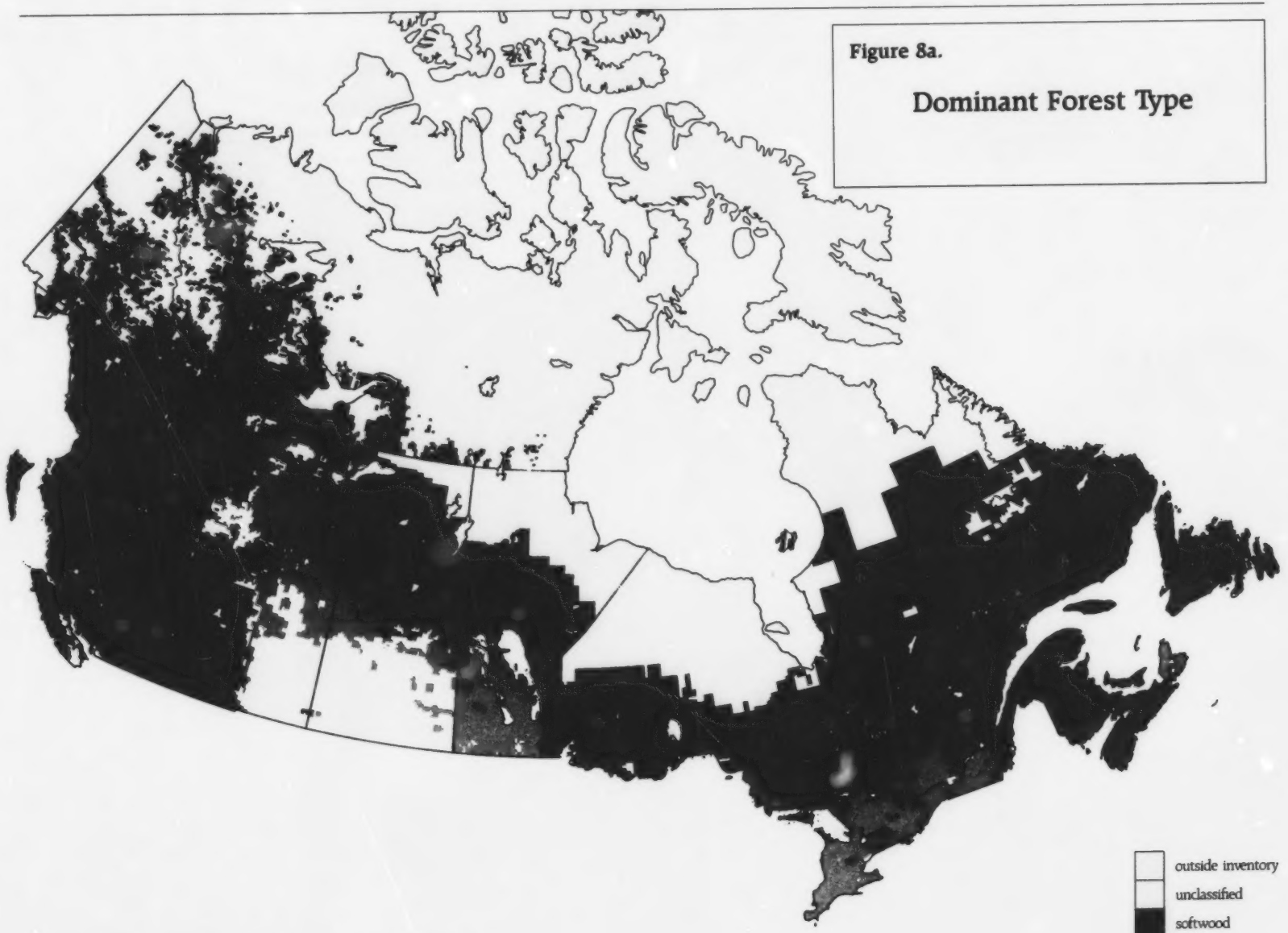





**Figure 8. Area of productive forest land by forest composition (100 000 ha)**

**Figure 8a.**

## Dominant Forest Type

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SOURCE: CANADIAN FOREST RESOURCE DATA SYSTEM

FOREST TYPE IS THE DOMINANT FOREST TYPE OF THE AREA

## Productive Forest – Volume Inventory

Wood volume means the amount of wood in a tree, stand, or other specified area, according to some unit of measurement and standard of use. Gross merchantable volumes to two utilization standards, pulpwood and saw wood, are recorded in Canada's Forest Inventory. In other words, the volumes reported here are of the main stem, excluding stump and top but including defective and decayed wood. These terms are illustrated in Figure 9.

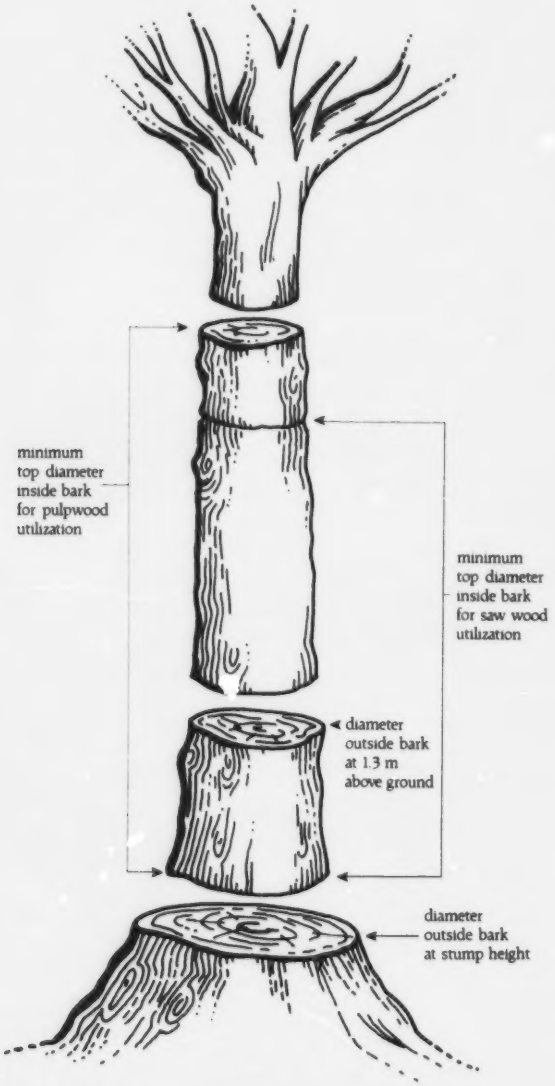



**Figure 9. Tree Volume Components**

Pulpwood is understood to be wood of a size or quality that the reporting jurisdiction generally considers as suitable for pulp, other reconstitution as fibre or chips, commercial chemical or commercial fuel use, or is used only in smaller sizes such as for posts and rails. Volume data presented in this report are to pulpwood specifications. Pulpwood volume includes saw wood volume.

Saw wood is understood to be wood of a size or quality that the reporting jurisdiction generally considers as suitable for lumber, veneer, other manufacture that does not require reconstitution, or use in the round requiring equivalent size (such as poles and pilings). The saw wood volumes reported here are included in the pulpwood volumes.

The total volume of wood on productive forest land is approximately 24 billion $m^3$ (Table 2). Its distribution is described below.

*Ownership*

The volume data are summarized by ownership in Figure 10. As expected, the largest volumes are on land classified as **provincial/ territorial**. About 36% of the standing wood volume in Canada is on provincial crown land in British Columbia. The highest volumes per hectare occur in British Columbia where large areas exceed 200 $m^3/ha$.

**Table 2. Volume by species group and forest type**
VOLUME – (000 000 $m^3$)

| Species Group | Forest Type | | | Total |
|---|---|---|---|---|
| | Softwood | Mixedwood | Hardwood | |
| Black & Red Spruce | 1 899.56 | 345.87 | 57.11 | 2 302.53 |
| Other Spruce | 3 987.54 | 798.40 | 250.75 | 5 036.68 |
| White Pine | 78.85 | 80.37 | 16.39 | 175.61 |
| Jack, Lodgepole & Shore Pine | 3 408.55 | 371.49 | 56.74 | 3 836.77 |
| Other Pine | 163.84 | 43.26 | 7.33 | 214.43 |
| Fir | 2 375.90 | 400.24 | 100.40 | 2 876.54 |
| Hemlock | 1 235.22 | 44.24 | 18.90 | 1 298.35 |
| Douglas-fir | 689.49 | 24.56 | 1.09 | 715.13 |
| Larch | 100.10 | 6.23 | 1.46 | 107.79 |
| Cedar & Other Conifers | 797.36 | 85.27 | 17.68 | 897.60 |
| Unspecified Conifers | 560.70 | 238.64 | 12.86 | 812.20 |
| Sub-Total | 15 297.11 | 2 435.87 | 540.71 | 18 273.63 |
| Trembling Aspen | 189.74 | 788.80 | 965.39 | 1 943.93 |
| Other Poplar | 130.47 | 523.98 | 600.74 | 1 255.19 |
| Yellow Birch | 10.17 | 73.00 | 102.72 | 185.90 |
| Other Birch | 183.13 | 460.45 | 330.46 | 974.05 |
| Sugar & Black Maple | 6.49 | 39.69 | 155.90 | 202.08 |
| Other Maple | 21.78 | 132.27 | 328.76 | 482.82 |
| Other Broad-Leaved Species | 9.93 | 67.66 | 175.53 | 253.12 |
| Unspecified Broad-Leaved Species | 23.04 | 147.68 | 179.27 | 349.98 |
| Sub-Total | 574.75 | 2 233.53 | 2 838.77 | 5 647.07 |
| TOTAL | 15 871.85 | 4 669.39 | 3 379.46 | 23 920.71 |

Totals may not add due to rounding.
Source: Canadian Forest Resource Data System

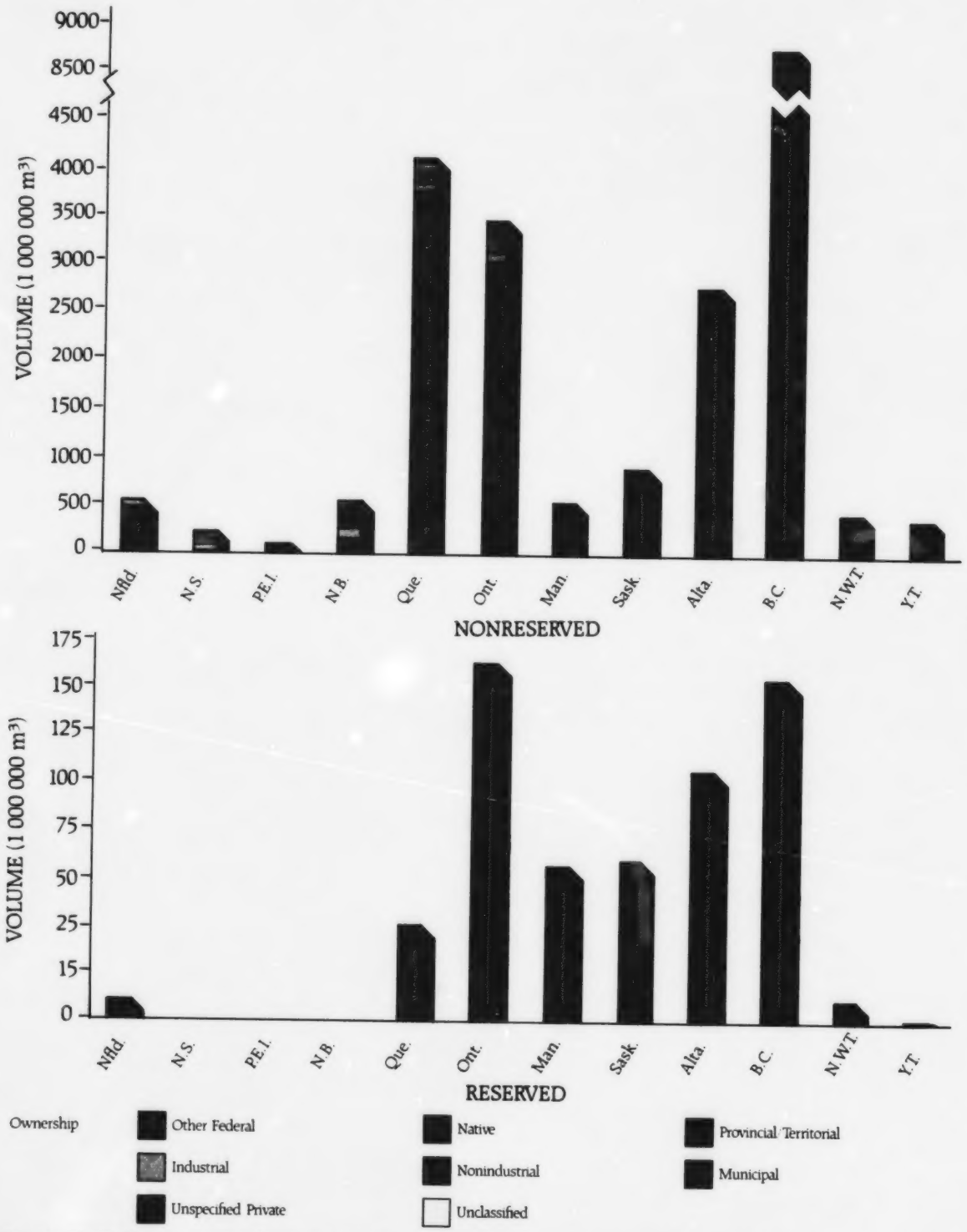





**Figure 10. Volumes on Productive Forest Land by Province, Status and Ownership**

*Site*

Volumes per hectare increase with increasing site class, but because of the inequalities in area of different site classes, the largest total volumes occur on the lower to middle range of site classes (Figure 11).

*Maturity Class*

The largest volumes occur, as expected, in forests classified as mature. The national averages for volume are as follows: regeneration – 12 $m^3$/ha; immature – 72 $m^3$/ha; mature – 162 $m^3$/ha; overmature – 161 $m^3$/ha; and uneven-aged – 91 $m^3$/ha. To find volumes in records coded "regeneration" may be unexpected, but these may be attributable to residual trees left on an area after harvesting. They may also be there because some species on the better sites can reach merchantable size while still of an age classified as regeneration.

*Forest Composition*

Figures 12 and 13 illustrate the volumes of coniferous and deciduous species, respectively. Coniferous species are generally the most important to the Canadian forest industry. These species can be present in all forest types, but the largest coniferous volumes naturally occur in the softwood forest type. The softwood forest type is by far the largest forest type in Canada in terms of volume and is comprised of all species volumes for that forest type (Figure 14). Coniferous species also account for approximately half (52%) of the volume of the mixedwood forest type (Table 2).

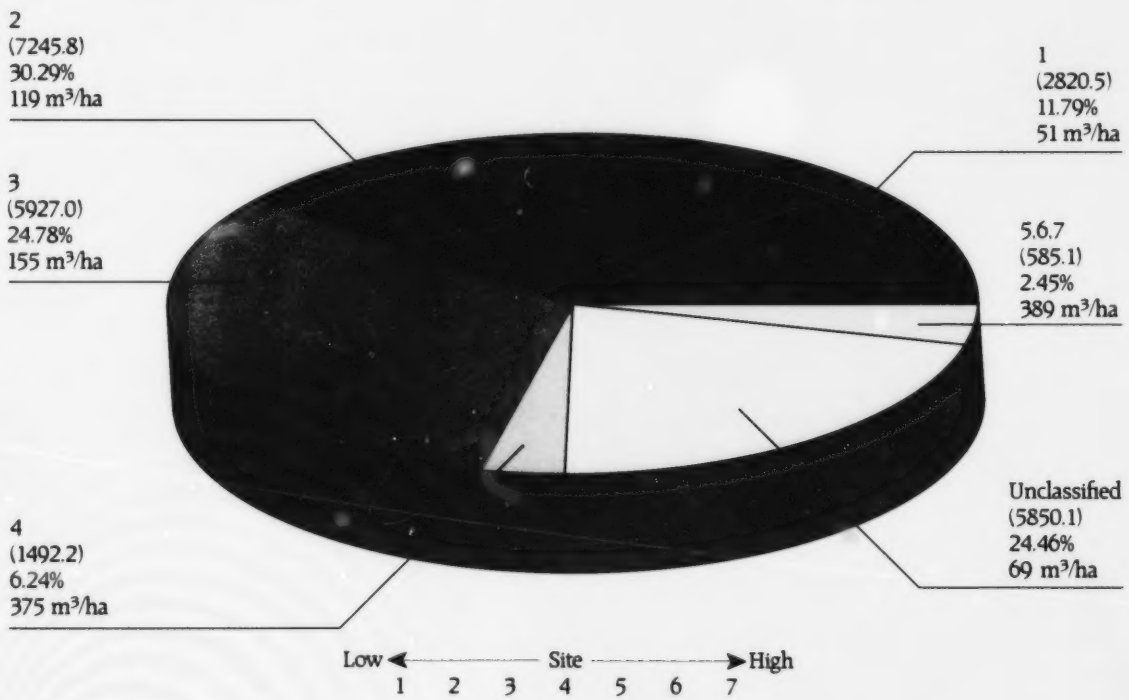



**Figure 11. Volumes on Productive Forest Land by Site Classes (1 000 000 $m^3$)**

**Petawawa National Forestry Institute**

PREPARED BY THE

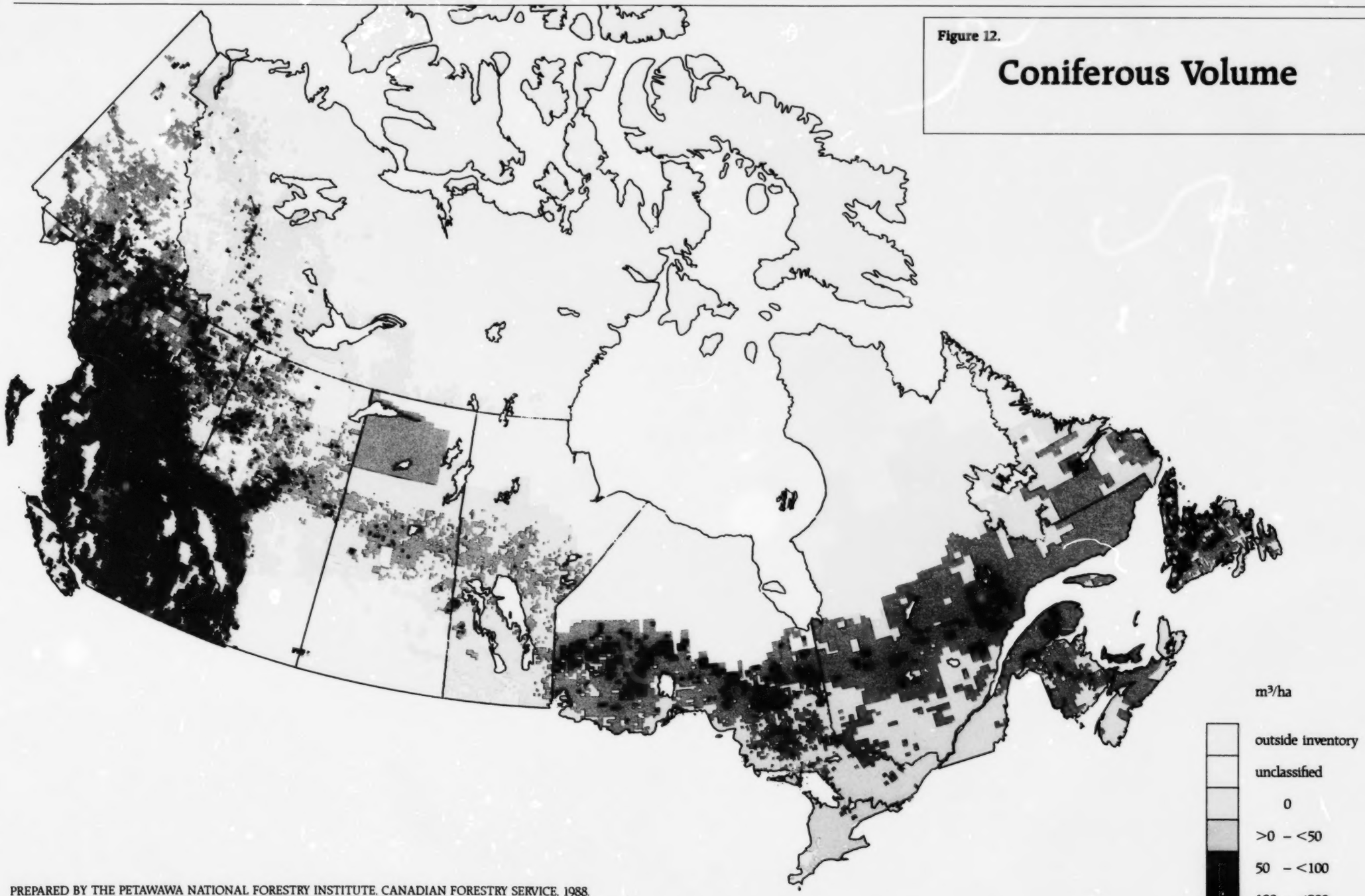
SOURCE: CANADIA

AVERAGE CONIFER

TOTAL AREA OF LA

Figure 12.

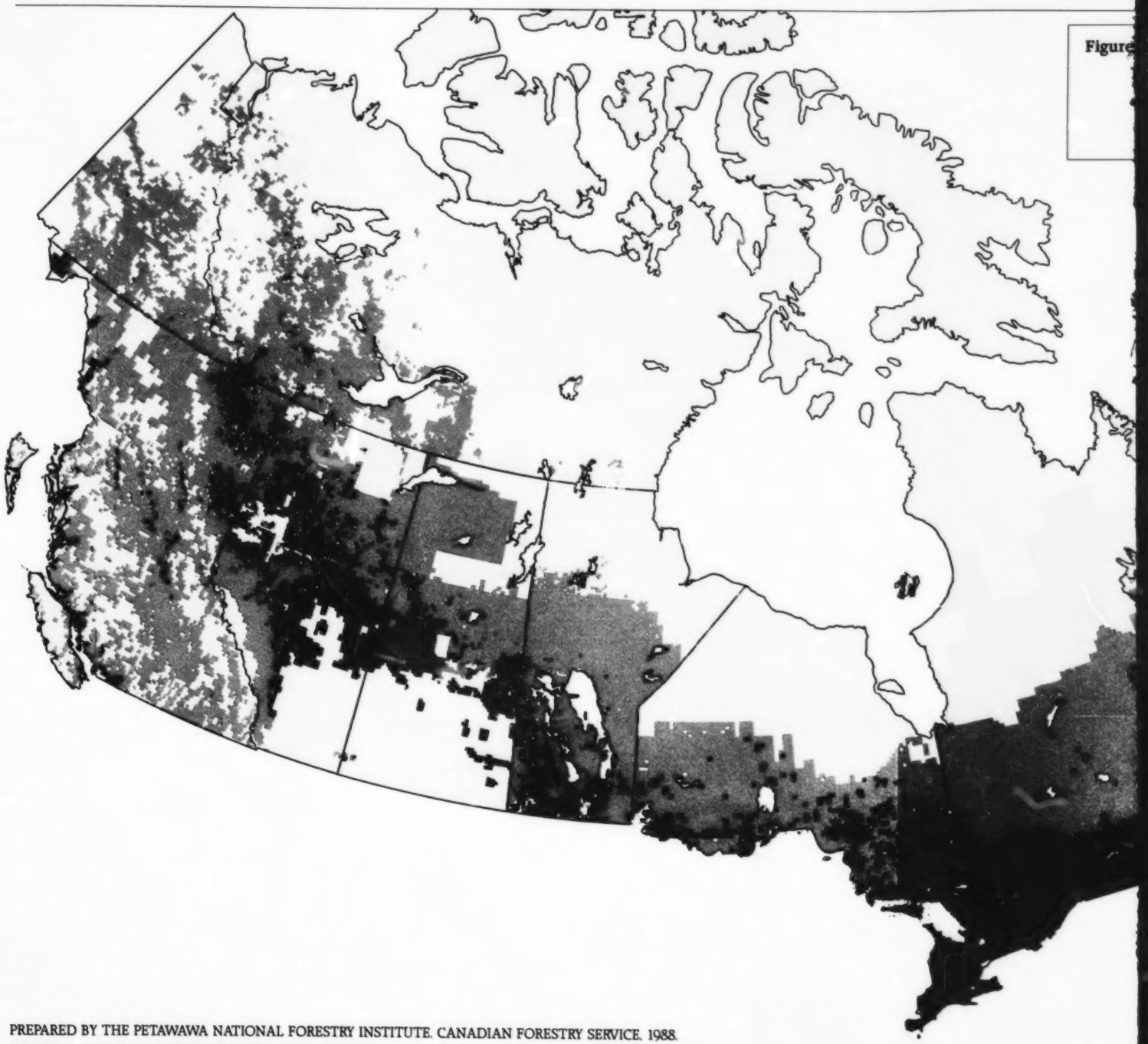
# Coniferous Volume




PREPARED BY THE PETAWAWA NATIONAL FORESTRY INSTITUTE, CANADIAN FORESTRY SERVICE, 1988.

SOURCE: CANADIAN FOREST RESOURCE DATA SYSTEM

AVERAGE CONIFEROUS VOLUME ($M^3$/HA) IS THE TOTAL CONIFEROUS VOLUME ($M^3$) DIVIDED BY THE TOTAL AREA OF LAND CURRENTLY SUPPORTING TREE GROWTH (NOT TOTAL LAND AREA)



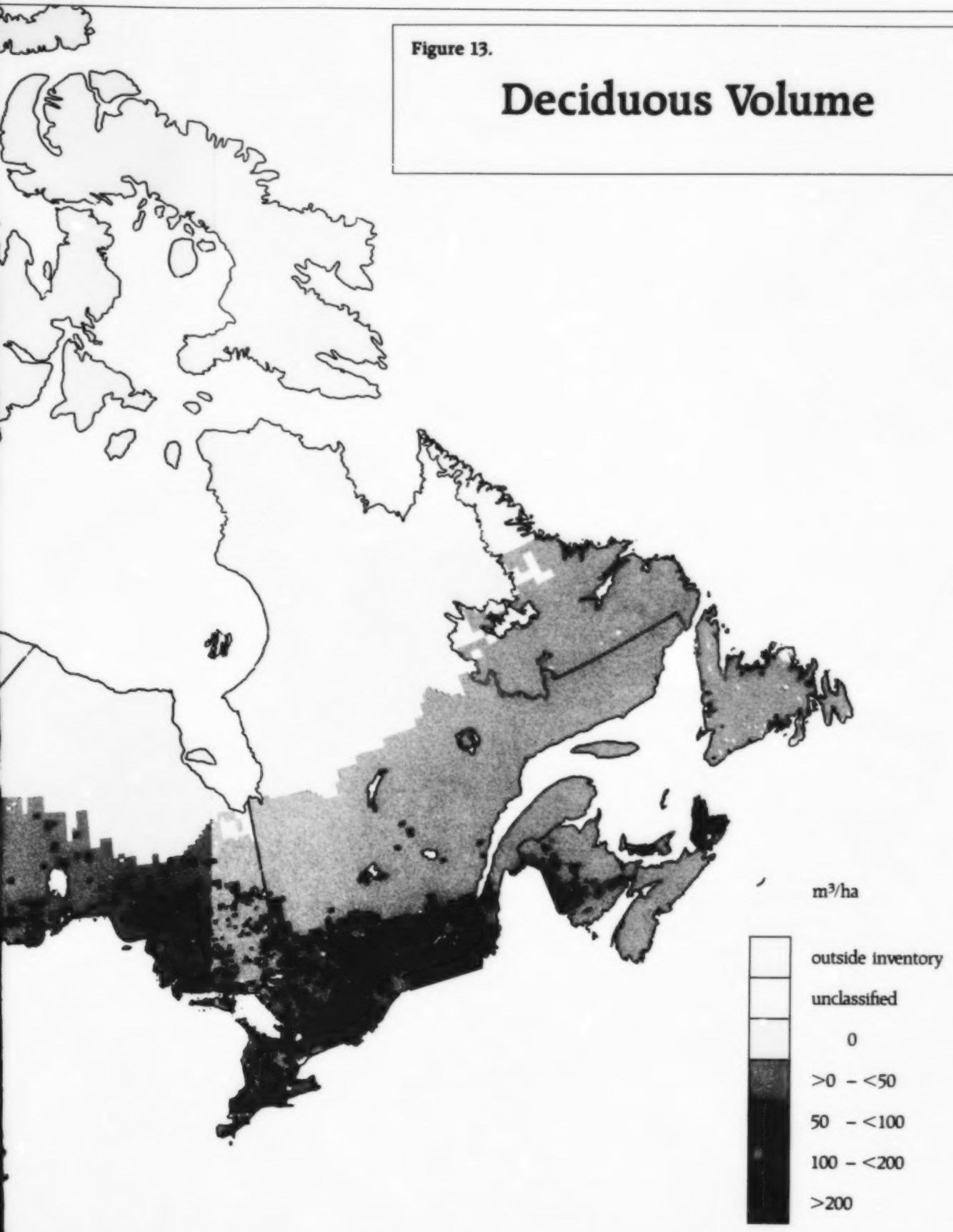

PREPARED BY THE PETAWAWA NATIONAL FORESTRY INSTITUTE, CANADIAN FORESTRY SERVICE, 1988.

SOURCE: CANADIAN FOREST RESOURCE DATA SYSTEM

AVERAGE DECIDUOUS VOLUME ($M^3$/HA) IS THE TOTAL DECIDUOUS VOLUME ($M^3$) DIVIDED BY THE TOTAL AREA OF LAND CURRENTLY SUPPORTING TREE GROWTH (NOT TOTAL LAND AREA)

Figure 13.

# Deciduous Volume



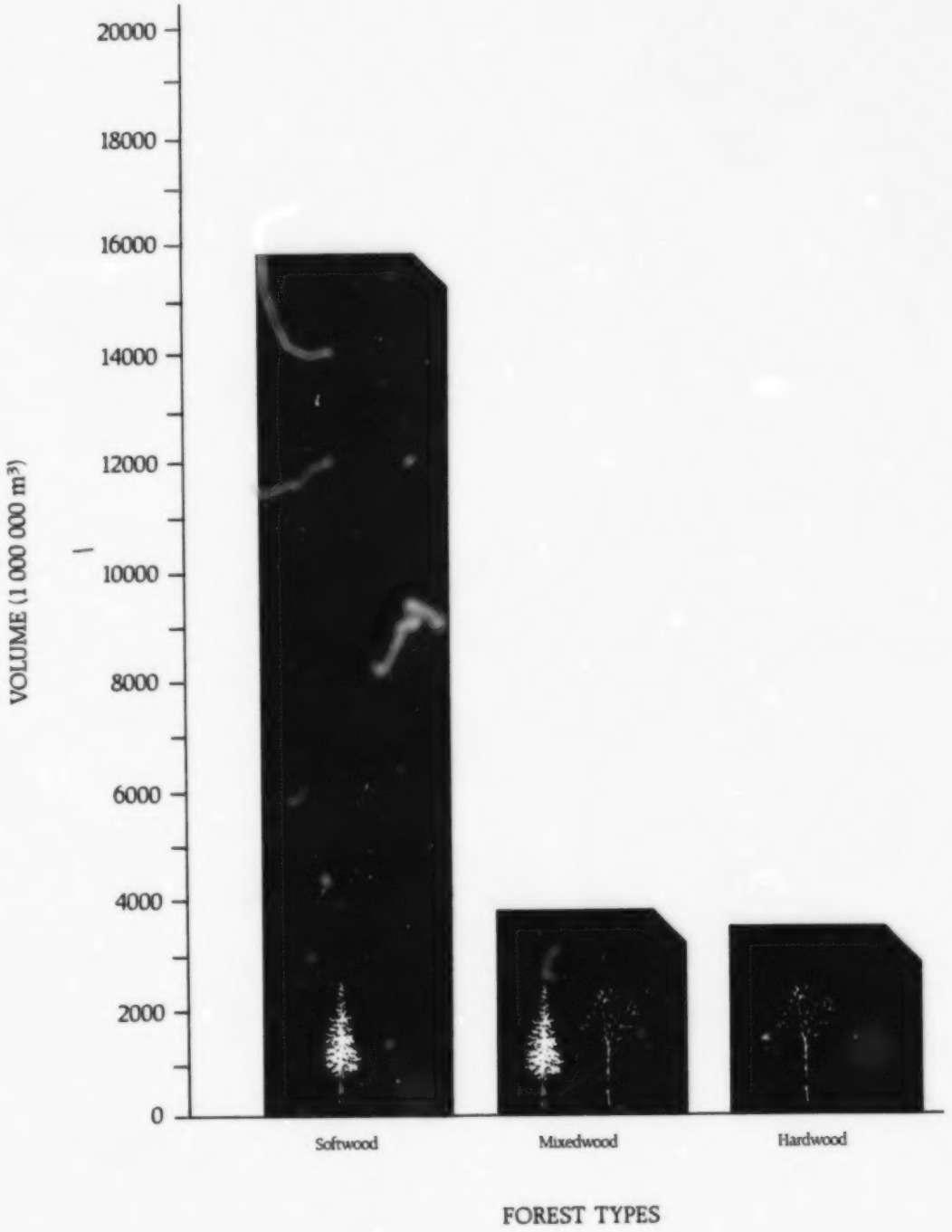



**Figure 14. Volumes by Forest Types**

**Area and Volume Summaries by Forest Regions**

A forest classification for Canada was first described by Halliday (1937). With some modification over the years, this classification is the most familiar to Canadian foresters. The Forest Regions of Canada are conceived as major geographic belts or zones (Figure 15), characterized vegetationally by a broad uniformity both in physiography and in the composition of the dominant tree species (Rowe 1972). The eight Forest Regions are subdivided into Forest Sections with distinctive patterns of vegetation and physiography. Inventory coverage varies from complete coverage of the Acadian Forest Region to incomplete for the Boreal Forest Region. All quantitative statements are expressed in terms of the inventoried portion of each region.

The *Boreal Forest Region* is the largest of the Forest Regions, and accounts for approximately 75% of the inventoried forest land area. It is a continuous belt from Newfoundland to the Rocky Mountains, north to the Yukon. As well as being the largest Forest Region, it is on average the least productive. Of the 299.2 million ha of forest land in the Boreal Forest Region, 55% is classified as productive. The stocked, productive forest land in the Boreal Forest Region supports an average of 86 $m^3$/ha. Although the forests are primarily coniferous, there is a general admixture of broad-leaved trees (Table 3).

The *Subalpine Forest Region* is the coniferous forest found on the mountain uplands in western Alberta and in British Columbia. Productive forest land amounts to 88% of the 16.4 million ha of forest land in the Region. The wood volume averages 211 $m^3$/ha. There is a close relationship with the Boreal Forest Region, from which the spruces and aspen intrude.

The forest of the *Montane Forest Region* has developed in response to the prevailing dry climate of the central plateau of British Columbia and several southern mountain valleys adjacent to the Alberta boundary. The Region is relatively small, with a forest land area of 11.8 million ha, 96% of which is classified as productive. Wood volumes average 166 $m^3$/ha.

The *Coast Forest Region* is small in area but tremendously productive with 83% of the forest land area classified as productive and an average wood volume of 296 $m^3$/ha. Essentially coniferous, it consists principally of western red cedar (*Thuja plicata* Donn) and western hemlock (*Tsuga heterophylla* (Raf.) Sarg.), with Sitka spruce (*Picea sitchensis* (Bong.) Carr.) abundant in the north, and with coast Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco) in the south.

A large part of the Kootenay River valley, the upper valleys of the Thompson and Fraser rivers, and the Quesnel Lake area of British Columbia contain 4.0 million ha of coniferous forest that closely resembles that of the Coast Forest Region. These constitute the *Columbia Forest Region*. Western red cedar and western hemlock are the characteristic trees in this interior "wet belt" in which 91% of the forest land is classified as productive. Volumes average 180 $m^3$/ha on the stocked, productive forest land in this Region.

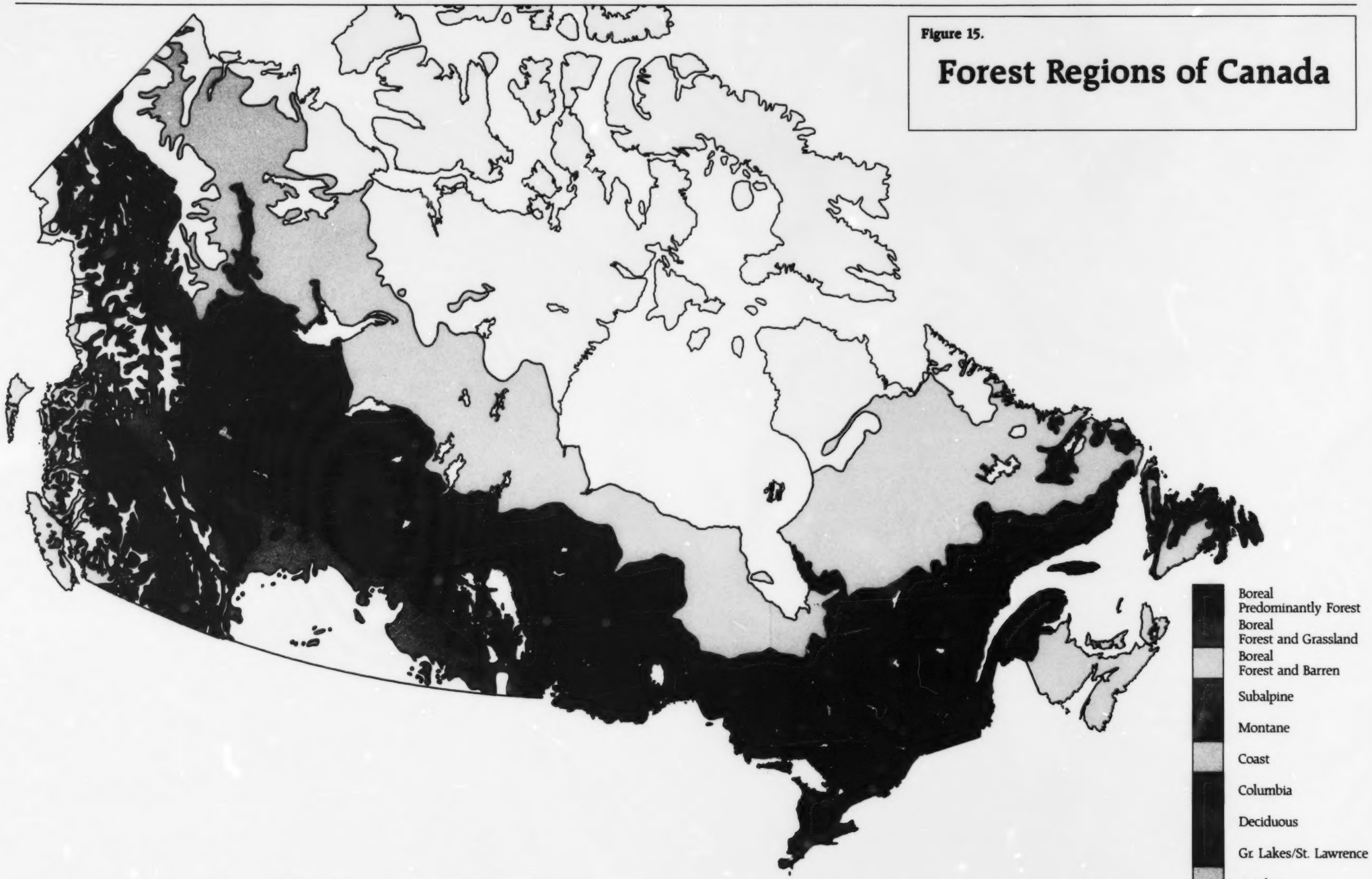
A small portion of the deciduous forest, widespread in the eastern United States, occurs in southwestern Ontario between Lakes Huron, Erie, and Ontario. A number of broad-leaved species have their northern limits in this locality. Conifers are few. Only 400 000 ha of forest land have been inventoried in the *Deciduous Forest Region*, but 99% is classified as productive. Volumes average 86 $m^3$/ha.

PRODUCED BY THE

SOURCE: FOREST
DEPARTMENT OF

Figure 15.

## Forest Regions of Canada




PRODUCED BY THE PETAWAWA NATIONAL FORESTRY INSTITUTE, CANADIAN FORESTRY SERVICE, 1988.
SOURCE: FOREST REGIONS OF CANADA, J.S. ROWE 1972.
DEPARTMENT OF THE ENVIRONMENT CANADIAN FORESTRY SERVICE. PUBL. NO. 1300.

## Table 3. Area and pulpwood volume for all species on stocked, productive forest land by forest region and predominant genus

Area – 00 000 ha
Volume – 000 000 $m^3$
Predominant Genus in the Cover Type

| Forest Regions* | Spruce | Pine | Fir | Hemlock | Douglas Fir | Larch | Other Conifers | Unspec. Conifers | Poplar | Birch | Maple | Other Broad Leaved | Unspec. Broad Leaved | Unclassified | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Boreal Forest | 304.59 | 197.33 | 36.67 | 0.10 | – | 2.57 | 2.10 | 17.08 | 143.50 | 35.75 | 1.00 | 0.20 | 76.34 | 432.78 | 1 250.01 |
| | 3 212.94 | 1 830.88 | 288.78 | 3.93 | – | 14.69 | 20.15 | 110.69 | 1 849.84 | 283.15 | 11.66 | 1.40 | 919.10 | 3 212.22 | 11 759.42 |
| Boreal Grassland | 0.29 | 0.38 | 0.00 | – | 0.01 | 0.01 | – | – | 11.02 | 0.00 | 0.16 | 0.95 | 0.62 | 0.03 | 13.47 |
| | 4.08 | 6.23 | 0.04 | – | 0.15 | 0.08 | – | – | 83.28 | 0.02 | 1.79 | 6.77 | 7.98 | – | 110.41 |
| Boreal Barren | 16.44 | 6.43 | 3.91 | – | – | 0.13 | 0.01 | 31.16 | 0.15 | 0.22 | – | – | 0.40 | 130.86 | 189.71 |
| | 66.20 | 7.12 | 41.73 | – | – | 1.07 | 0.03 | 164.01 | 2.14 | 2.55 | – | – | 0.66 | 394.42 | 679.94 |
| Subalpine | 34.18 | 43.61 | 26.97 | 11.23 | 5.66 | 0.68 | 3.46 | – | 4.79 | 0.37 | 0.04 | 0.22 | 0.80 | 4.27 | 136.28 |
| | 809.94 | 773.32 | 578.53 | 442.39 | 115.14 | 8.88 | 78.52 | – | 60.46 | 3.08 | 1.28 | 3.57 | 6.44 | 0.71 | 2 882.26 |
| Montane | 13.16 | 63.52 | 5.31 | 0.75 | 16.43 | 0.65 | 0.56 | – | 6.41 | 0.42 | 0.00 | 0.00 | 0.16 | 0.86 | 108.23 |
| | 285.84 | 1 027.80 | 101.23 | 25.30 | 268.64 | 9.06 | 0.06 | – | 71.66 | 4.91 | 0.00 | 0.01 | 0.90 | 0.07 | 1 795.49 |
| Coast | 1.77 | 1.07 | 5.18 | 22.90 | 7.56 | – | 16.37 | – | 0.61 | 0.10 | 0.13 | 1.32 | – | 0.18 | 57.19 |
| | 77.13 | 13.05 | 108.49 | 711.43 | 158.38 | – | 579.90 | – | 11.42 | 0.81 | 4.39 | 26.43 | – | – | 1 691.43 |
| Columbia | 5.76 | 8.54 | 4.03 | 2.65 | 6.87 | 2.46 | 1.92 | – | 1.34 | 0.36 | – | – | – | 0.30 | 34.23 |
| | 147.94 | 139.14 | 71.25 | 68.16 | 138.42 | 33.70 | – | – | 14.13 | 4.16 | – | – | – | – | 616.90 |
| Deciduous | 0.01 | 0.22 | 0.00 | 0.04 | – | 0.01 | 0.22 | – | 0.13 | 0.03 | 1.00 | 1.10 | – | 0.03 | 2.79 |
| | 0.04 | 2.29 | 0.00 | 0.53 | – | 0.07 | 1.65 | – | 1.37 | 0.25 | 8.65 | 9.17 | – | – | 24.02 |
| Great Lakes-St. Lawrence | 16.57 | 24.87 | 14.78 | 2.41 | – | 0.67 | 9.49 | 2.13 | 29.96 | 24.19 | 45.88 | 6.71 | 3.41 | 41.91 | 222.98 |
| | 149.29 | 321.45 | 135.26 | 36.88 | – | 4.07 | 89.25 | 22.91 | 386.88 | 228.79 | 572.06 | 61.36 | 34.64 | 372.36 | 2 415.21 |
| Acadian | 8.91 | 0.63 | 1.13 | 0.04 | – | 0.25 | 0.79 | 26.63 | 0.37 | 0.06 | 0.79 | 0.01 | 20.63 | 21.43 | 81.67 |
| | 106.89 | 9.36 | 13.27 | 0.55 | – | 2.84 | 13.67 | 203.89 | 3.64 | 0.46 | 9.55 | 0.02 | 191.98 | 160.30 | 716.42 |
| TOTAL | 401.68 | 346.61 | 98.00 | 40.11 | 36.53 | 7.42 | 34.94 | 77.00 | 198.28 | 61.51 | 49.01 | 10.51 | 102.37 | 632.64 | 2 096.60 |
| | 4 860.31 | 4 130.64 | 1 338.58 | 1 289.15 | 680.73 | 74.47 | 783.24 | 501.49 | 2 484.82 | 528.18 | 609.40 | 108.74 | 1 161.71 | 4 140.08 | 22 691.51 |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data
*Regions may also extend beyond the reported forest inventory.

Along the Great Lakes and the St. Lawrence River valley lies a forest of a very mixed nature, characterized by the eastern white (*Pinus strobus* L.) and red pines (*Pinus resinosa* Ait), eastern hemlock (*Tsuga canadensis* (L.) Carr.), and yellow birch (*Betula alleghaniensis* Britton). Associated with these are certain dominant broad-leaved species common to the Deciduous Forest Region along with several typically Boreal species. There are 27.3 million ha of forest land in the *Great Lakes-St. Lawrence Forest Region*, 89% of which is classified as productive forest land. Volumes average 108 $m^3$/ha.

The *Acadian Forest Region*, which covers the greater part of the Maritime Provinces, is closely related to the Great Lakes-St. Lawrence Forest Region and, to a lesser extent, to the Boreal Forest region. Of the 9.4 million ha of forest land, 96% is classified as productive. Volumes average 87 $m^3$/ha.

A detailed analysis of the forest inventory in the Forest Regions will be provided in an upcoming publication.

**Auxiliary Inventory Data**

In addition to the area and volume data presented in the preceding sections of this report, the inventory now includes several auxiliary files. These auxiliary files contain information by larger summary units than the normal Canadian Forest Resource Data System (CFRDS) cells (see the section on "Inventory System").

The availability of the auxiliary inventory data is outlined in Table 4. Subsequent reports will present the information in more detail.

**Table 4. Availability of auxiliary inventory data**

| Prov./ Terr. | Stocking Mixture | Productivity | Cull | Tree size/ volume | Policy Constraint |
|---|---|---|---|---|---|
| Nfld. | – | * | – | – | – |
| N.S. | * | * | * | * | * |
| P.E.I. | – | * | – | * | * |
| N.B. | – | * | * | * | * |
| Que. | – | * | * | – | * |
| Ont. | – | * | * | – | * |
| Man. | – | * | * | – | – |
| Sask. | – | * | * | – | * |
| Alta. | – | * | * | – | * |
| B.C. | – | * | – | * | – |
| Y.T. | – | * | * | – | * |
| N.W.T. | – | * | – | – | – |

* data available
– not available

*Stocking Mixture*

Auxiliary information is available from the inventory on the mixture of nonstocked, partially and fully stocked forest found within the unproven stocking class. The proportions of this mixture are estimated for regions through some form of sampling.

*Productivity*

The forest inventory describes the forest at a point in time and gives no information about its dynamics. Productivity data describe the rate of forest growth. The most common measure of forest productivity is mean annual increment (m.a.i.) in cubic metres per hectare per year. The data are applicable only to stocked, productive forest land.

*Cull*

Cull is the volume of material that is of merchantable size but unmerchantable because of defects.

*Tree Size/Volume Relationships*

Tree size is one of the most important parameters in the determination of harvesting and wood processing costs for national wood supply modelling. Wood volumes are not stored by diameter classes in the inventory. Instead, a mathematical function describes the volume distribution by diameter classes. The diameter distribution relates only to pulpwood utilization, since saw wood volume is included in pulpwood.

*Resource Management Policy Constraint*

Lands classified as reserved, such as National Parks, are restricted from wood harvest over their whole area. Even lands classified as non-reserved are generally constrained to some degree. This could be due to reserve buffers on streams and lakes, special fish and wildlife concerns (such as deer wintering yards, and fish spawning beds), and areas of thin soils. Many nonindustrial landowners prefer not to harvest their wood. A special case exists where forest lands can be harvested once and then will no longer be available for sustained yield management. This applies, for example, to forest lands designated for settlement and clearing for agricultural purposes. Policy constraint is expressed as a percent of the productive forest land and does not include the concept of economic accessibility.

# Discussion

## Inventory Data Characteristics

Forest inventory in Canada usually begins with aerial photography. The age of an inventory, then, is the number of years since the photographs were taken, not the number of years since the results were reported. This national forest inventory can be thought of as a patchwork of source inventories of various ages, as illustrated in Figure 16.

Forest management agencies are continually updating their forest inventories. Therefore the pattern of ages of inventory in the national forest inventory is always changing. Several significant differences can be detected between this national inventory and the last, particularly in northern Alberta and in Quebec, where large panels of inventory have been replaced.

Although all forest inventories gather much the same types of information, the degree of intensity, or level of detail, varies considerably. The most intensive forest inventories, termed **operational**, are restricted to relatively small areas and have not been used in the compilation of this national inventory.

**Management** inventories, the next most intensive type of forest inventory, are the most common in Canada. They are the data source for 41% (by area) of the total forest land identified in this national inventory. More extensive **regional** inventories are the data source for 11%, and most of the rest comes from **reconnaissance** inventories.

The source inventories sometimes lack some of the classifiers included in the national classification scheme. A "missing value" is coded in these records and the corresponding areas are accounted for in the various summaries presented in this report.

Approximately 52% of the inventory coverage described in this report is 10 years old or newer (from 1986). Almost 20% is new since the last edition of Canada's Forest Inventory. Most of the new areas are located in northern Quebec, southern prairie provinces, and southern Ontario. Only 3% is more than 20 years old.

The source inventories vary considerably in specifications and age. The data have been accepted and reported at face value, and no estimates have been made of the accuracy of the data at the national level.

## Inventory System

Forest management in Canada is primarily a provincial responsibility. A typical management inventory in Canada consists of forest type maps and volume sample data. Aerial photography is used for the delineation and classification of forest stands. Maps based on photo interpretation are used in conjunction with field sampling to determine area and volume statistics. The information is periodically updated or replaced.

The flow of forest inventory data from management agency to presentation in this report and other products is illustrated in Figure 17.

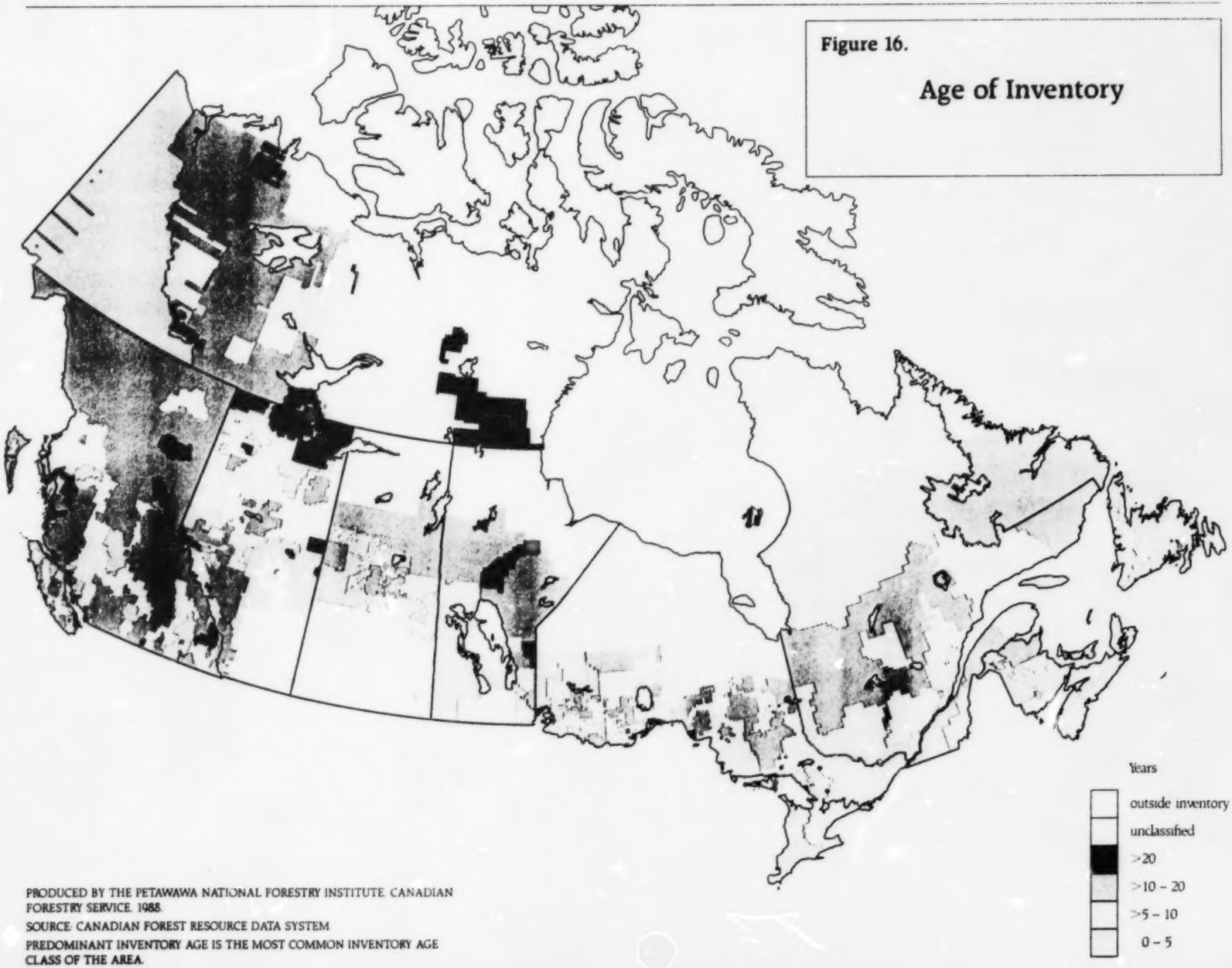
Basically, stand level data (1) are provided to the CFS by the management agencies, converted (2) to a national classification scheme (Figure 18), and aggregated (3) to the cell, provincial, and national levels for loading to CFRDS. The formation and use of "grid cells" in CFRDS has been described by Monty (1987).

Auxiliary information, used to better describe various aspects of the resource, are also provided by the management agencies and handled in a similar fashion.

The data are organized into a series of databases in CFRDS.

**Figure 16.**

## Age of Inventory




PRODUCED BY THE PETAWAWA NATIONAL FORESTRY INSTITUTE, CANADIAN FORESTRY SERVICE, 1988.

SOURCE: CANADIAN FOREST RESOURCE DATA SYSTEM.

PREDOMINANT INVENTORY AGE IS THE MOST COMMON INVENTORY AGE CLASS OF THE AREA.

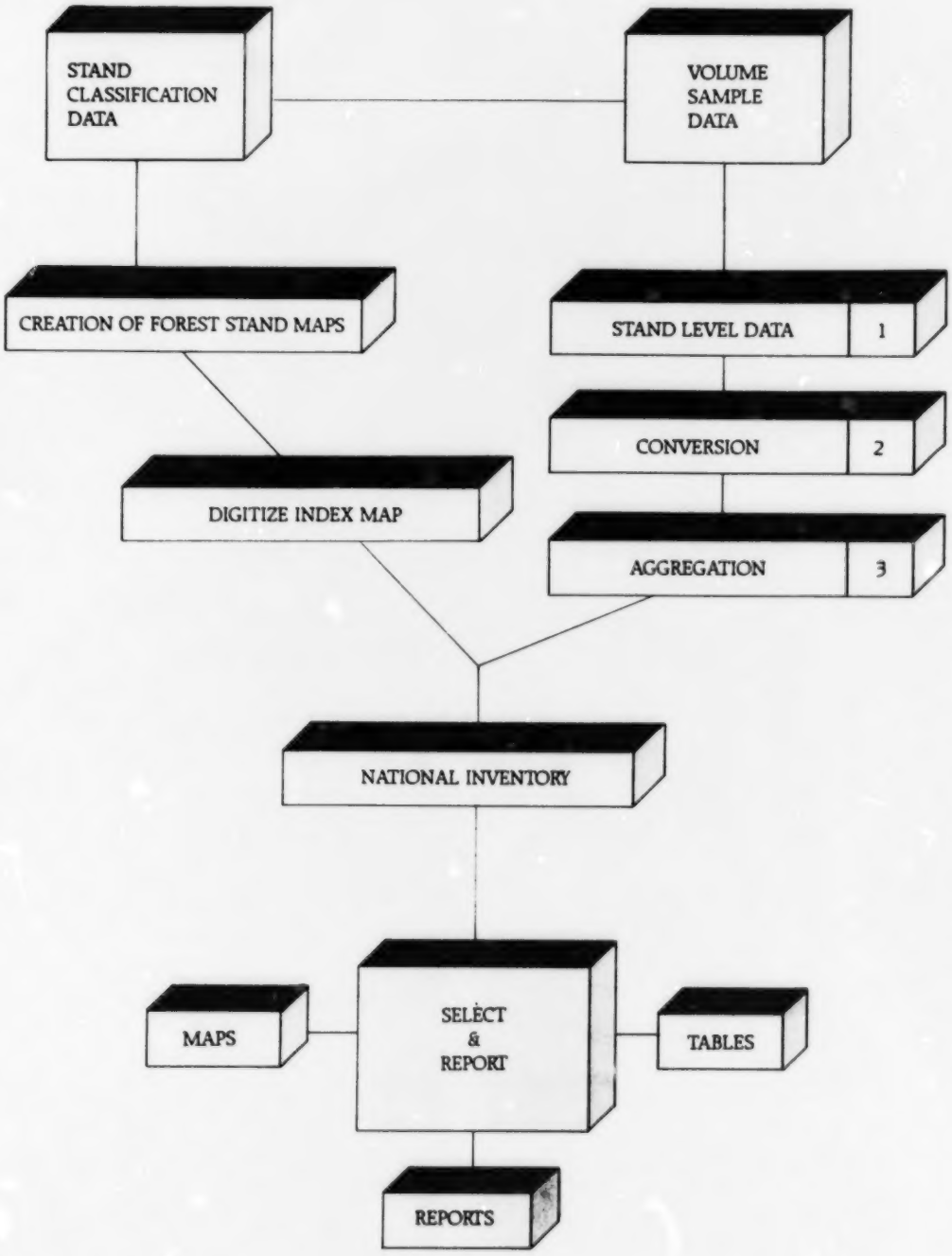





**Figure 17. Data Flow from Source to National Inventory**

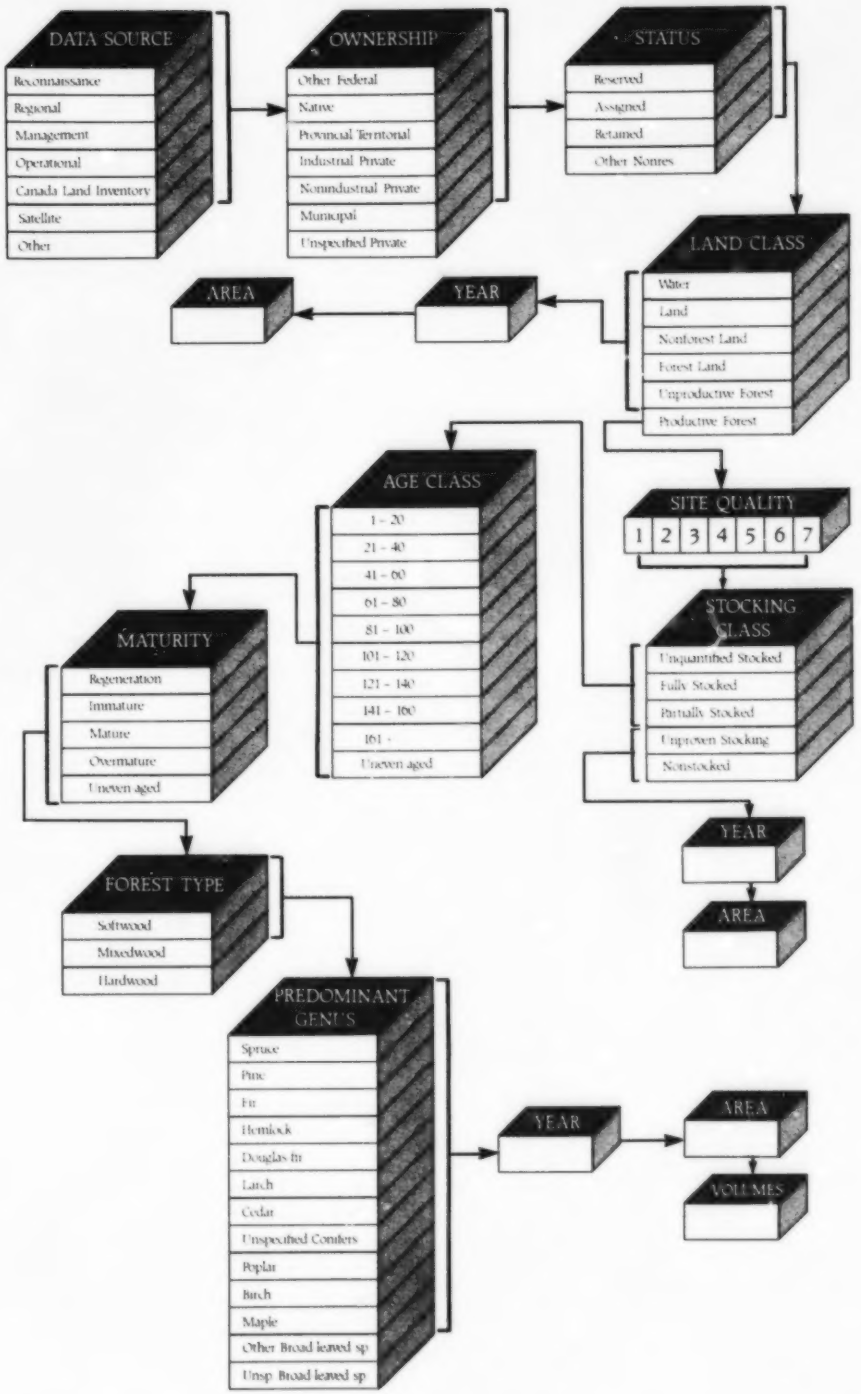



**Figure 18. Organization of Classification Attributes in the 1986 Inventory Attribute Data File**

## Conclusion

The national forest inventory is designed to provide the best available information at the strategic policy planning level. Although the data presented in this report have been checked and verified by the contributing agencies, differences can be expected between these and other published summaries. Differences may be due to changes in classification, reporting of more recent data, or more complex coverage of inventory. Canada's national forest inventories are not designed to assess significant changes over time. Comparisons between successive inventory summaries can be misleading without detailed background knowledge.

Virtually all the productive forest land in Canada is now covered by some level of forest inventory. The area of inventoried forest land reported in Canada's Forest Inventory 1976, 1981, and 1986 has steadily increased. It was reported as 293 million ha in 1976, 342 million ha in 1981, and 398 million ha in 1986. The clarity of our picture of Canada's forest resources is constantly improving. Area and volume data can be selected and reported geographically by specific classifiers. Data from the different databases can be combined to produce new information.

A detailed description of the construction of Canada's Forest Inventory 1986 is given in Gray and Nietmann (1988).

# Information Services

The 1986 national forest inventory is only one of the databases in CFRDS. An inventory of forest biomass, including access, is also available (Bonnor 1985). The stocking mixture, productivity, cull, tree size-volume relationships, and resource management policy constraint databases referred to above can be related directly to the 1986 inventory and other databases. The Forest Regions and Sections of Canada have been overlaid on the inventory.

Information can be derived from an individual database or a combination of databases. The recent poster "Tree distribution in Canada" is an example of the kind of special summary that can be produced.

A Client Desk has been developed to support the needs of the forestry community for national forest resource statistics. Forest resources information is being collected and disseminated continually. Inquiries about data availability and requests for special summaries can be addressed to:

Forest Inventory Program
Petawawa National Forestry Institute
Forestry Canada
Chalk River, Ontario
K0J 1J0

Phone (613) 589-2880

For detailed, up-to-date forest inventory data (see footnote to Table 3, Appendix 1), the reader is directed to the appropriate forestry agency. See the list of Canadian Forest Inventory Committee members on page 5.

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# Appendix 1.
# Summary Tables of Inventory Data

1. Area by province and land classes
2. Area of productive forest land by province and status
3. Area of productive, nonreserved forest land by province and ownership
4. Area of productive, nonreserved forest land by province and stocking classes
5. Area of stocked productive, nonreserved forest land by province and age classes
6. Area and pulpwood volume for all species on mature/overmature, stocked, productive, and nonreserved forest by province and predominant genus
7. Area and pulpwood volume for all species on mature/overmature, stocked, productive, nonreserved forest by province, forest type, and site class
8. Unproven stocking plus nonstocked area of productive nonreserved forest land by province, ownership, and cause of disturbance

**Table 1. Area by province and land classes**
**AREA – (00 000 ha)**

| Province/Territory | Forest | | | Nonforest | Water | Unclassified | Total |
|---|---|---|---|---|---|---|---|
| | Productive | Unproductive | Unspecified Productivity | | | | |
| Newfoundland* | 111.78 | 113.00 | – | 88.25 | 47.04 | – | 360.07 |
| Nova Scotia | 38.45 | 1.93 | – | 9.50 | 4.85 | 0.97 | 55.68 |
| Prince Edward Island | 2.78 | 0.16 | – | 2.63 | 0.17 | 0.00 | 5.75 |
| New Brunswick | 60.92 | 2.44 | 0.00 | 7.25 | 1.84 | 0.01 | 72.46 |
| Quebec* | 547.89 | 276.96 | – | 239.37 | 156.57 | 0.30 | 1 221.09 |
| Ontario* | 382.85 | 83.18 | – | 69.05 | 63.87 | 3.91 | 602.86 |
| Manitoba* | 149.24 | 101.97 | – | 91.98 | 62.47 | – | 405.65 |
| Saskatchewan* | 158.86 | 78.03 | 0.19 | 70.63 | 47.13 | 9.71 | 364.55 |
| Alberta* | 254.36 | 118.22 | 4.88 | 95.62 | 21.70 | 19.95 | 514.73 |
| British Columbia | 511.03 | 91.87 | 0.16 | 294.82 | 40.99 | 6.75 | 945.62 |
| Yukon Territory | 75.62 | 196.32 | 1.74 | 203.75 | 4.84 | 1.09 | 483.37 |
| Northwest Territories* | 143.21 | 443.47 | 27.69 | 294.77 | 143.60 | – | 1 052.73 |
| TOTAL | 2 436.98 | 1 507.56 | 34.66 | 1 467.59 | 595.06 | 42.71 | 6 084.56 |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System

–: No data
*This province territory also has areas beyond the reported forest inventory

**Table 2. Area of productive forest land by province and status**
**AREA – (00 000 ha)**

| Province | Reserved | Nonreserved | | | Unclassified | Total |
|---|---|---|---|---|---|---|
| | | Assigned | Retained | Other | | |
| Newfoundland | 0.73 | 15.29 | 91.73 | 4.02 | 0.01 | 111.78 |
| Nova Scotia | 0.96 | 4.93 | 5.47 | 27.09 | – | 38.45 |
| Prince Edward Island | – | 0.01 | 0.19 | 2.57 | – | 2.78 |
| New Brunswick | 0.27 | 29.58 | 1.24 | 29.82 | – | 60.92 |
| Quebec | 3.45 | 147.95 | 329.87 | 66.07 | 0.54 | 547.89 |
| Ontario | 14.70 | 159.45 | 151.73 | 56.51 | 0.45 | 382.85 |
| Manitoba | 7.31 | 59.66 | 71.38 | 10.89 | – | 149.24 |
| Saskatchewan | 10.66 | 4.49 | 139.80 | 3.92 | – | 158.86 |
| Alberta | 24.49 | 44.02 | 161.20 | 9.40 | 15.25 | 254.36 |
| British Columbia | 20.16 | 40.42 | 430.66 | 19.79 | – | 511.03 |
| Yukon Territory | 0.73 | – | 74.89 | – | – | 75.62 |
| Northwest Territories | 5.83 | – | 137.37 | – | – | 143.21 |
| TOTAL | 89.28 | 505.81 | 1 595.55 | 230.09 | 16.25 | 2 436.98 |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 3. Area of productive, nonreserved forest land by province and ownership**

**AREA – (00 000 ha)**

| Province/Territory | Federal | | Provincial/ Territorial | Private | | | Municipal | Total |
|---|---|---|---|---|---|---|---|---|
| | Native | Other | | Industrial | Nonindustrial | Unspecified | | |
| Newfoundland | – | 0.04 | 106.99 | 3.49 | 0.48 | 0.04 | 0.00 | 111.04 |
| Nova Scotia | 0.11 | 0.05 | 10.23 | 8.44 | 18.66 | – | – | 37.49 |
| Prince Edward Island | 0.01 | 0.01 | 0.19 | – | 2.57 | – | – | 2.78 |
| New Brunswick | 0.13 | 1.11 | 29.58 | (5.65) | (9.73) | (14.44) | – | 60.65 |
| Quebec | 0.63 | 0.19 | 477.01 | 4.22 | 36.35 | 25.50 | – | 543.90 |
| Ontario | 1.26 | 1.28 | 308.65 | 7.86 | 48.65 | – | – | 367.69 |
| Manitoba | 0.95 | 0.04 | 130.05 | – | 9.90 | – | 1.00 | 141.93 |
| Saskatchewan | 1.37 | – | 142.94 | – | 2.03 | 1.86 | – | 148.20 |
| Alberta | 0.31 | – | 204.91 | – | – | 9.33 | 0.06 | 214.62 |
| British Columbia | 2.01 | 0.64 | 468.44 | – | 19.62 | 0.17 | – | 490.87 |
| Yukon Territory | – | – | 74.89 | – | – | – | – | 74.89 |
| Northwest Territories | – | 17.97 | 119.41 | – | – | – | – | 137.37 |
| TOTAL | 6.79 | 21.31 | 2 073.30 | 29.66 | 147.99 | 51.35 | 1.06 | 2 331.46 |

Totals may not add due to rounding

Source: Canadian Forest Resource Data System

More recent estimates of New Brunswick show 11.84 industrial; 17.94 nonindustrial; – unspecified

–: No data

**Table 4. Area of productive, nonreserved forest land by province and stocking classes**
**AREA – (00 000 ha)**

| Province | Stocked | | | | Nonstocked and Unproven stocking | Total |
|---|---|---|---|---|---|---|
| | Fully | Partially | Unquantified | Total | | |
| Newfoundland | 19.80 | 3.60 | 52.94 | 76.34 | 34.70 | 111.04 |
| Nova Scotia | 0.04 | 0.01 | 32.42 | 32.47 | 5.02 | 37.49 |
| Prince Edward Island | 2.20 | 0.24 | 0.01 | 2.45 | 0.33 | 2.78 |
| New Brunswick | 23.78 | 1.20 | 31.83 | 56.81 | 3.83 | 60.65 |
| Quebec | – | – | 495.65 | 495.65 | 48.25 | 543.90 |
| Ontario | 260.72 | 66.00 | 0.14 | 326.86 | 40.83 | 367.69 |
| Manitoba | 113.44 | 12.78 | – | 126.22 | 15.71 | 141.93 |
| Saskatchewan | 86.32 | 22.44 | 24.40 | 133.16 | 15.04 | 148.20 |
| Alberta | 178.29 | 11.35 | 1.18 | 190.82 | 23.80 | 214.62 |
| British Columbia | 450.47 | 0.00 | 0.01 | 450.48 | 40.40 | 490.87 |
| Yukon Territory | 22.23 | 30.50 | 0.29 | 53.02 | 21.87 | 74.89 |
| Northwest Territories | 42.62 | 87.40 | 7.20 | 137.22 | 0.15 | 137.37 |
| TOTAL | 1 199.91 | 235.52 | 646.06 | 2 081.49 | 249.96 | 2 331.46 |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 5. Area of stocked, productive, nonreserved forest land by province and age classes**
**AREA – (00 000 ha)**

| Province/Territory | 1 – 20 | 21 – 40 | 41 – 60 | 61 – 80 | 81 – 100 | 101 – 120 | 121 – 140 | 141 – 160 | 161 and Greater | Uneven-aged | Unclassified | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Newfoundland | 3.02 | 3.04 | 3.31 | 7.51 | 9.05 | 0.20 | 0.20 | 0.29 | 0.77 | – | 48.93 | 76.34 |
| Nova Scotia | 0.94 | 4.19 | 13.57 | 9.35 | 1.97 | 0.22 | – | – | – | 2.07 | 0.16 | 32.47 |
| Prince Edward Island | – | – | – | – | – | – | – | – | – | – | 2.45 | 2.45 |
| New Brunswick | 2.67 | 2.36 | 7.11 | 6.58 | 3.43 | 2.09 | 0.86 | 0.70 | 0.35 | 0.08 | 30.59 | 56.81 |
| Quebec | 9.87 | 18.72 | 30.14 | 26.66 | 18.15 | 8.65 | – | | – | 1.50 | 381.96 | 495.65 |
| Ontario | 14.01 | 44.50 | 76.01 | 69.75 | 46.23 | 41.64 | 23.75 | 7.86 | 1.83 | 0.06 | 0.32 | 326.86 |
| Manitoba | – | – | – | – | – | – | – | – | – | – | 126.22 | 126.22 |
| Saskatchewan | 1.68 | 12.98 | 9.80 | 8.03 | 8.24 | 2.11 | 1.58 | 0.18 | 0.01 | – | 88.56 | 133.16 |
| Alberta | 1.25 | 8.75 | 47.68 | 35.80 | 36.49 | 22.94 | 16.98 | 4.98 | 3.81 | – | 12.13 | 190.82 |
| British Columbia | 16.87 | 26.90 | 44.45 | 41.11 | 51.80 | 53.40 | 30.58 | 139.02 | 46.31 | 0.00 | 0.03 | 450.48 |
| Yukon Territory | – | – | – | – | – | – | – | – | – | – | 53.02 | 53.01 |
| Northwest Territories | – | – | – | – | – | – | – | – | – | – | 137.22 | 137.22 |
| TOTAL | 50.30 | 121.44 | 232.06 | 204.81 | 175.37 | 131.24 | 73.96 | 153.04 | 53.08 | 3.71 | 881.59 | 2 081.50 |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 6. Area and pulpwood volume for all species on mature/overmature, stocked, productive, and nonreserved forest by province and predominant genus**
**AREA – (00 000 ha)**
**VOLUME – (000 000 m³)**

| Province/ Territory | Predominant Genus | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Spruce | Pine | Fir | Hemlock | Douglas fir | Larch | Other Conifers | Unspec. Conifers | Total Conifer | Poplar | Birch | Maple | Other Broad Leaved | Unspec. Broad-Leaved | Total Decid-uous | Unclas-sified | Total |
| Newfoundland | 9.28 | 0.00 | 10.73 | – | – | 0.01 | – | – | 20.02 | 0.03 | 1.28 | – | – | – | 1.31 | – | 21.34 |
| | 99.41 | 0.01 | 130.69 | – | – | 0.09 | – | – | 230.20 | 0.37 | 14.66 | – | – | – | 15.03 | – | 245.23 |
| Nova Scotia | – | – | – | – | – | – | – | 3.26 | 3.26 | – | – | – | – | 1.99 | 1.99 | 2.68 | 7.93 |
| | – | – | – | – | – | – | – | 37.64 | 37.64 | – | – | – | – | 17.95 | 17.95 | 26.16 | 81.76 |
| Prince Edward | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Island | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| New Brunswick | 4.45 | 0.28 | 1.90 | 0.03 | – | 0.07 | 0.72 | 6.82 | 14.27 | – | – | – | – | 7.17 | 7.17 | 7.12 | 28.55 |
| | 65.12 | 5.01 | 33.16 | 0.41 | – | 1.03 | 12.88 | 84.48 | 202.09 | – | – | – | – | 87.53 | 87.53 | 71.07 | 360.67 |
| Quebec | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 226.67 | 226.67 |
| | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 2 166.50 | 2 166.50 |
| Ontario | 83.89 | 23.63 | 9.08 | 0.69 | – | 0.45 | 3.28 | – | 121.02 | 34.73 | 21.77 | 11.02 | 3.09 | – | 70.61 | 0.01 | 191.63 |
| | 1 042.12 | 377.57 | 89.96 | 9.68 | – | 4.50 | 31.21 | – | 1 555.04 | 673.41 | 188.05 | 148.54 | 32.42 | – | 1 042.42 | 0.09 | 2 597.54 |
| Manitoba | 7.57 | 6.45 | 0.29 | – | – | 0.08 | 0.01 | – | 14.04 | 7.64 | 0.05 | 0.15 | 0.81 | 1.48 | 10.13 | – | 24.53 |
| | 87.98 | 72.23 | 3.62 | – | – | 0.60 | 0.09 | – | 164.52 | 95.86 | 0.58 | 2.03 | 7.06 | 19.53 | 125.06 | – | 289.59 |
| Saskatchewan | 8.22 | 6.55 | 0.04 | – | – | 0.08 | – | – | 14.89 | 9.27 | 0.19 | 0.00 | 0.00 | – | 9.46 | 0.03 | 24.39 |
| | 98.86 | 80.76 | 0.53 | – | – | 0.60 | – | – | 180.75 | 145.76 | 2.06 | 0.02 | 0.00 | – | 147.84 | 0.02 | 328.59 |
| Alberta | 36.48 | 22.18 | 0.20 | – | 0.10 | 0.20 | – | – | 59.16 | 10.45 | 0.08 | – | – | 28.88 | 39.41 | 0.02 | 98.58 |
| | 664.13 | 546.11 | 3.91 | – | 1.69 | 1.37 | – | – | 1 217.21 | 183.29 | 0.77 | – | – | 536.42 | 720.48 | 0.23 | 1 937.91 |
| British Columbia | 62.57 | 88.74 | 44.50 | 31.36 | 15.44 | 0.83 | 20.68 | – | 264.12 | 18.41 | 0.94 | 0.04 | 0.14 | – | 19.53 | 0.03 | 283.66 |
| | 1 560.59 | 1 858.04 | 1 038.76 | 1 304.18 | 390.39 | 18.19 | 649.18 | – | 6 819.33 | 415.09 | 14.33 | 1.73 | 3.73 | – | 434.88 | 0.07 | 7 254.28 |
| Yukon | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 13.33 | 13.33 |
| | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 172.39 | 172.39 |
| Northwest | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 44.07 | 44.07 |
| Territories | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 301.96 | 301.96 |
| TOTAL | 212.45 | 147.82 | 66.74 | 32.07 | 15.54 | 1.72 | 24.69 | 10.08 | 511.11 | 80.54 | 24.31 | 11.22 | 4.04 | 39.52 | 159.63 | 293.94 | 964.88 |
| | 3 618.22 | 2 939.73 | 1 300.63 | 1 314.26 | 392.07 | 26.37 | 693.36 | 122.12 | 10 406.76 | 1 513.79 | 220.45 | 152.32 | 43.21 | 661.43 | 2 591.20 | 2 738.48 | 15 736.45 |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 7. Area and pulpwood volume for all species on mature/overmature, stocked, productive, nonreserved forest by province, forest type and site class (cont'd)**
**AREA – (00 000 ha)**
**VOLUME – (000 000 m³)**

| Province/Territory | SITE CLASS 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unclassified | Total |
|---|---|---|---|---|---|---|---|---|---|
| Newfoundland | | | | | | | | | |
| Softwood | 4.78 | 13.33 | 0.05 | – | – | – | – | – | 18.15 |
| | 39.92 | 165.11 | 1.13 | – | – | – | – | – | 206.16 |
| Mixedwood | 0.24 | 2.25 | 0.05 | – | – | – | – | – | 2.54 |
| | 2.21 | 29.04 | 1.01 | – | – | – | – | – | 32.26 |
| Hardwood | 0.02 | 0.56 | 0.07 | – | – | – | – | – | 0.65 |
| | 0.16 | 5.68 | 0.99 | – | – | – | – | – | 6.82 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Nova Scotia | | | | | | | | | |
| Softwood | 3.03 | 0.39 | – | – | – | – | – | – | 3.43 |
| | 33.66 | 5.24 | – | – | – | – | – | – | 38.90 |
| Mixedwood | 2.15 | 0.36 | 0.00 | – | – | – | – | – | 2.51 |
| | 20.76 | 4.13 | 0.00 | – | – | – | – | – | 24.90 |
| Hardwood | 1.59 | 0.40 | – | – | – | – | – | – | 1.99 |
| | 14.37 | 3.59 | – | – | – | – | – | – | 17.95 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Prince Edward Island | | | | | | | | | |
| Softwood | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Mixedwood | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Hardwood | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |

Totals may not add up due to rounding
Source: Canadian Forest Resource Data System
–: No data

| Site Class | Dominant tree height at age 50 years |
|---|---|
| 1 | 5.0 – 9.9 m |
| 2 | 10.0 – 14.9 m |
| 3 | 15.0 – 19.9 m |
| 4 | 20.0 – 24.9 m |
| 5 | 25.0 – 29.9 m |
| 6 | 30.0 – 34.9 m |
| 7 | 35.0 m + |

**Table 7. Area and pulpwood volume for all species on mature/overmature, stocked, productive, nonreserved forest by province, forest type and site class (cont'd)**
**AREA – (00 000 ha)**
**VOLUME – (000 000 m³)**

| Province/Territory | SITE CLASS 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unclassified | Total |
|---|---|---|---|---|---|---|---|---|---|
| New Brunswick | | | | | | | | | |
| Softwood | | – | – | – | – | – | – | 12.67 | 12.67 |
| | | – | – | – | – | – | – | 178.09 | 178.09 |
| Mixedwood | – | – | – | – | – | – | – | 10.84 | 10.84 |
| | – | – | – | – | – | – | – | 125.58 | 125.58 |
| Hardwood | – | – | – | – | – | – | – | 5.04 | 5.04 |
| | – | – | – | – | – | – | – | 57.01 | 57.01 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Quebec | | | | | | | | | |
| Softwood | – | – | – | – | – | – | – | 190.89 | 190.89 |
| | – | – | – | – | – | – | – | 1 710.66 | 1 710.66 |
| Mixedwood | – | – | – | – | – | – | – | 24.57 | 24.57 |
| | – | – | – | – | – | – | – | 322.54 | 322.54 |
| Hardwood | – | – | – | – | – | – | – | 11.21 | 11.21 |
| | – | – | – | – | – | – | – | 133.30 | 133.30 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Ontario | | | | | | | | | |
| Softwood | 56.03 | 27.47 | 13.83 | 0.09 | 0.00 | – | – | – | 97.43 |
| | 546.28 | 441.87 | 249.28 | 2.10 | 0.01 | – | – | – | 1 239.54 |
| Mixedwood | 6.17 | 20.17 | 32.39 | 0.69 | 0.01 | – | – | – | 59.43 |
| | 53.90 | 225.59 | 518.63 | 17.62 | 0.28 | – | – | – | 816.02 |
| Hardwood | 0.00 | 11.21 | 22.57 | 0.95 | 0.05 | – | – | – | 34.77 |
| | 0.00 | 122.23 | 393.52 | 25.11 | 1.13 | – | – | – | 541.99 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |

Totals may not add up due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 7. Area and pulpwood volume for all species on mature/overmature, stocked, productive, nonreserved forest by province, forest type and site class (cont'd)**
**AREA – (00 000 ha)**
**VOLUME – (000 000 m³)**

| Province/Territory | SITE CLASS 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unclassified | Total |
|---|---|---|---|---|---|---|---|---|---|
| Manitoba | | | | | | | | | |
| Softwood | 0.01 | 3.98 | 8.34 | – | – | – | – | – | 12.33 |
| | 0.06 | 29.41 | 105.76 | – | – | – | – | – | 135.24 |
| Mixedwood | – | 0.16 | 4.94 | – | – | – | – | – | 5.10 |
| | – | 1.19 | 72.00 | – | – | – | – | – | 73.19 |
| Hardwood | 0.56 | 1.23 | 5.30 | – | – | – | – | – | 7.09 |
| | 3.50 | 12.43 | 65.22 | – | – | – | – | – | 81.16 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Saskatchewan | | | | | | | | | |
| Softwood | 2.61 | 2.43 | 0.19 | – | – | – | – | 5.78 | 11.01 |
| | 24.92 | 27.53 | 3.36 | – | – | – | – | 65.61 | 121.43 |
| Mixedwood | 0.56 | 1.49 | 0.11 | – | – | – | – | 5.10 | 7.26 |
| | 6.72 | 19.60 | 2.08 | – | – | – | – | 87.45 | 115.85 |
| Hardwood | 0.11 | 1.31 | 0.11 | – | – | – | – | 4.60 | 6.12 |
| | 0.90 | 13.93 | 1.67 | – | – | – | – | 74.86 | 91.35 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Not Applicable | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Alberta | | | | | | | | | |
| Softwood | 23.34 | 20.45 | 3.64 | – | – | – | – | – | 47.42 |
| | 323.02 | 509.26 | 98.85 | – | – | – | – | – | 931.13 |
| Mixedwood | 1.47 | 14.26 | 3.70 | – | – | – | – | – | 19.44 |
| | 20.29 | 348.28 | 95.33 | – | – | – | – | – | 463.89 |
| Hardwood | 1.46 | 24.70 | 5.56 | – | – | – | – | – | 31.73 |
| | 11.95 | 418.64 | 112.30 | – | – | – | – | – | 542.89 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |

Totals may not add up due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 7. Area and pulpwood volume of mature/overmature, stocked, productive, and nonreserved forest by province, forest type and site class (concluded)**
**AREA – (00 000 ha)**
**VOLUME – (000 000 m³)**

| Province/Territory | SITE CLASS 1 | 2 | 3 | 4 | 5 | 6 | 7 | Unclassified | Total |
|---|---|---|---|---|---|---|---|---|---|
| British Columbia | | | | | | | | | |
| Softwood | 65.82 | 104.43 | 64.67 | 17.28 | 4.32 | 0.45 | 0.21 | 0.00 | 257.17 |
| | 556.11 | 2 484.06 | 2 237.69 | 968.96 | 336.37 | 48.19 | 24.19 | 0.00 | 6 655.57 |
| Mixedwood | 1.08 | 8.42 | 8.72 | 4.53 | 0.33 | 0.09 | 0.02 | – | 23.20 |
| | 9.62 | 116.78 | 230.26 | 143.40 | 16.61 | 5.62 | 1.20 | – | 523.49 |
| Hardwood | 0.02 | 0.90 | 1.39 | 0.92 | 0.04 | 0.01 | 0.00 | – | 3.29 |
| | 0.11 | 8.33 | 36.35 | 28.40 | 1.55 | 0.32 | 0.16 | – | 75.22 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Yukon Territory | | | | | | | | | |
| Softwood | 8.07 | 1.29 | 0.27 | – | – | – | – | 0.17 | 9.80 |
| | 93.42 | 28.09 | 4.83 | – | – | – | – | 2.53 | 128.86 |
| Mixedwood | 2.04 | 0.55 | 0.28 | – | – | – | – | – | 2.87 |
| | 20.52 | 9.93 | 4.37 | – | – | – | – | – | 34.82 |
| Hardwood | 0.51 | 0.14 | 0.01 | – | – | – | – | – | 0.66 |
| | 5.50 | 3.11 | 0.11 | – | – | – | – | – | 8.72 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| Northwest Territories | | | | | | | | | |
| Softwood | 15.92 | 1.59 | 0.11 | – | – | – | – | – | 17.61 |
| | 63.66 | 33.40 | 3.53 | – | – | – | – | – | 100.59 |
| Mixedwood | 17.99 | 6.43 | 0.29 | – | – | – | – | – | 24.70 |
| | 53.66 | 112.87 | 8.00 | – | – | – | – | – | 174.52 |
| Hardwood | 0.12 | 1.52 | 0.12 | – | – | – | – | – | 1.76 |
| | 0.24 | 23.63 | 2.97 | – | – | – | – | – | 26.84 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |
| TOTAL | | | | | | | | | |
| Softwood | 179.60 | 175.36 | 91.09 | 17.37 | 4.32 | 0.45 | 0.21 | 209.50 | 677.91 |
| | 1 681.06 | 3 723.98 | 2 704.43 | 971.06 | 336.37 | 48.19 | 24.19 | 1 956.89 | 11 446.17 |
| Mixedwood | 31.70 | 54.09 | 50.48 | 5.22 | 0.34 | 0.09 | 0.02 | 40.51 | 182.45 |
| | 187.67 | 867.41 | 931.67 | 161.02 | 16.89 | 5.62 | 1.20 | 535.56 | 2 707.04 |
| Hardwood | 4.40 | 41.98 | 35.13 | 1.87 | 0.08 | 0.01 | 0.00 | 20.85 | 104.32 |
| | 36.73 | 611.57 | 613.12 | 53.51 | 2.68 | 0.32 | 0.16 | 265.16 | 1 583.24 |
| Unclassified | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 8. Unproven stocking plus nonstocked area of productive and nonreserved forest land by province, ownership and cause of disturbance (cont'd.)**

**AREA – (00 000 ha)**

| Province/Territory | Cutover | Burn | Pest | Other | Unclassified | Total |
|---|---|---|---|---|---|---|
| Newfoundland | | | | | | |
| Provincial/Territorial | 1.38 | 0.82 | 0.30 | 0.50 | 31.34 | 34.35 |
| Native | – | – | – | – | – | – |
| Other Federal | 0.00 | – | – | 0.00 | – | 0.01 |
| Industrial | 0.13 | 0.04 | 0.05 | 0.11 | – | 0.33 |
| Nonindustrial | 0.01 | 0.00 | 0.00 | 0.01 | – | 0.02 |
| Unspecified Private | 0.00 | 0.00 | – | – | – | 0.00 |
| Municipal | – | – | – | 0.00 | – | 0.00 |
| Nova Scotia | | | | | | |
| Provincial/Territorial | – | – | – | – | 2.10 | 2.10 |
| Native | 0.00 | – | – | – | – | 0.00 |
| Other Federal | – | – | – | – | 0.00 | 0.00 |
| Industrial | – | – | – | – | 0.59 | 0.59 |
| Nonindustrial | – | – | – | – | 2.32 | 2.32 |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | – | – |
| Prince Edward Island | | | | | | |
| Provincial/Territorial | 0.01 | 0.00 | 0.00 | 0.00 | – | 0.02 |
| Native | 0.00 | 0.00 | – | 0.00 | – | 0.00 |
| Other Federal | 0.00 | 0.00 | – | 0.00 | – | 0.00 |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | 0.12 | 0.01 | 0.00 | 0.17 | – | 0.31 |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | – | – |
| New Brunswick | | | | | | |
| Provincial/Territorial | 1.32 | 0.19 | – | 0.04 | – | 1.56 |
| Native | 0.00 | – | – | 0.00 | – | 0.00 |
| Other Federal | 0.10 | 0.03 | – | 0.00 | – | 0.13 |
| Industrial | 0.46 | 0.00 | – | 0.02 | – | 0.49 |
| Nonindustrial | 0.44 | 0.00 | – | 0.38 | – | 0.81 |
| Unspecified Private | 0.27 | 0.03 | – | 0.55 | – | 0.85 |
| Municipal | – | – | – | – | – | – |
| Quebec | | | | | | |
| Provincial/Territorial | 13.56 | 24.75 | 1.69 | 0.87 | 0.00 | 40.87 |
| Native | 0.02 | 0.01 | – | 0.01 | 0.00 | 0.03 |
| Other Federal | 0.01 | – | – | 0.01 | – | 0.02 |
| Industrial | 0.20 | 0.00 | 0.02 | 0.01 | – | 0.23 |
| Nonindustrial | 1.07 | 0.02 | 0.03 | 3.26 | – | 4.39 |
| Unspecified Private | 0.95 | 0.35 | 0.00 | 1.41 | 0.00 | 2.71 |
| Municipal | – | – | – | – | – | – |

Totals may not add due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 8. Unproven stocking plus nonstocked area of productive nonreserved forest land by province, ownership and cause of disturbance (cont'd.)**

AREA – (00 000 ha)

| Province/Territory | Cutover | Burn | Pest | Other | Unclassified | Total |
|---|---|---|---|---|---|---|
| Ontario | | | | | | |
| Provincial/Territorial | – | – | – | – | 31.03 | 31.03 |
| Native | – | – | – | – | 0.12 | 0.12 |
| Other Federal | – | – | – | – | 0.06 | 0.06 |
| Industrial | – | – | – | – | 1.44 | 1.44 |
| Nonindustrial | – | – | – | – | 8.20 | 8.20 |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | – | – |
| Manitoba | | | | | | |
| Provincial/Territorial | – | – | – | – | 15.31 | 15.31 |
| Native | – | – | – | – | 0.10 | 0.10 |
| Other Federal | – | – | – | – | 0.00 | 0.00 |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | – | – | – | – | 0.20 | 0.20 |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | 0.10 | 0.10 |
| Saskatchewan | | | | | | |
| Provincial/Territorial | 1.24 | 6.68 | – | 1.76 | 5.33 | 15.01 |
| Native | 0.00 | 0.02 | – | 0.01 | – | 0.04 |
| Other Federal | – | – | – | – | – | – |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | – | – | – | – | – | – |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | – | – |
| Alberta | | | | | | |
| Provincial/Territorial | 3.01 | 12.75 | 0.01 | 2.79 | 5.22 | 23.78 |
| Native | – | – | – | – | – | – |
| Other Federal | – | – | – | – | – | – |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | – | – | – | – | – | – |
| Unspecified Private | 0.01 | 0.00 | – | 0.01 | 0.00 | 0.02 |
| Municipal | 0.00 | 0.00 | – | 0.00 | 0.00 | 0.00 |
| British Columbia | | | | | | |
| Provincial/Territorial | – | – | – | – | 37.79 | 37.79 |
| Native | – | – | – | – | 0.15 | 0.15 |
| Other Federal | – | – | – | 0.00 | 0.05 | 0.05 |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | – | – | – | – | 2.39 | 2.39 |
| Unspecified Private | – | – | – | – | 0.01 | 0.01 |
| Municipal | – | – | – | – | – | – |

Totals may not add up due to rounding
Source: Canadian Forest Resource Data System
–: No data

**Table 8. Unproven stocking plus nonstocked area of productive nonreserved forest land by province, ownership and cause of disturbance (concluded)**
**AREA – (00 000 ha)**

| Province/Territory | Cutover | Burn | Pest | Other | Unclassified | Total |
|---|---|---|---|---|---|---|
| Yukon Territory | | | | | | |
| Provincial/Territorial | 0.03 | 5.62 | – | – | 16.23 | 21.88 |
| Native | – | – | – | – | – | – |
| Other Federal | – | – | – | – | – | – |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | – | – | – | – | – | – |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | – | – |
| Northwest Territories | | | | | | |
| Provincial/Territorial | 0.03 | 0.12 | – | – | 0.00 | 0.15 |
| Native | – | – | – | – | – | – |
| Other Federal | – | – | – | – | – | – |
| Industrial | – | – | – | – | – | – |
| Nonindustrial | – | – | – | – | – | – |
| Unspecified Private | – | – | – | – | – | – |
| Municipal | – | – | – | – | – | – |
| Total | | | | | | |
| Provincial/Territorial | 20.59 | 50.94 | 2.00 | 5.96 | 144.35 | 223.84 |
| Native | 0.03 | 0.03 | – | 0.02 | 0.37 | 0.44 |
| Other Federal | 0.10 | 0.03 | – | 0.02 | 0.11 | 0.27 |
| Industrial | 0.79 | 0.04 | 0.07 | 0.14 | 2.03 | 3.08 |
| Nonindustrial | 1.64 | 0.04 | 0.03 | 3.82 | 13.11 | 18.63 |
| Unspecified Private | 1.22 | 0.38 | 0.00 | 1.98 | 0.02 | 3.60 |
| Municipal | 0.00 | 0.00 | – | 0.00 | 0.11 | 0.11 |

Totals may not add up due to rounding
Source: Canadian Forest Resource Data System
–: No data

# Appendix 2.
# Glossary of Terms

The terms and definitions used in this document are largely from the Canadian Forest Inventory Committee (Bonnor 1978); if no number is given in brackets at the end of a definition, the definition is specific to this inventory.

**References:**


(1) Bonnor, G.M., editor. 1978. A guide to Canadian forest inventory terminology and usage. 2nd ed. Forest Management Inst., Can. Dep. Environ., Can. For. Serv.

(2) Society of American Foresters. 1958. Forest terminology: A glossary of technical terms used in forestry. 3rd ed. rev. Washington, D.C.

(3) Ford-Robertson, F.C., editor. 1971. Terminology of forest science, technology, practice and products. English-language version. multilingual forestry terminology series, No. 1. Society of American Foresters. Washington, D.C.

(4) Empire Forestry Association. 1953. British Commonwealth forest terminology. Part 1. Silviculture, protection, mensuration and management, together with allied subjects. The Royal Empire Society. London, England.


**Data Source**

**Reconnaissance:** An exploratory, extensive forest inventory with no detailed estimates obtained (1).

A formal sampling design is generally not used, and no precision estimates are obtained.

**Regional:** A detailed, extensive forest inventory for planning on a regional or provincial basis (1).

Major forest types are usually mapped, with estimates given for each type. Precision estimates given for total inventory volume.

**Management:** A detailed, intensive forest inventory for management purposes, of an area managed as one unit (1).

The forest types are usually mapped in detail with estimates given for each type. Precision estimates given for total inventory volume.

**Operational:** An intensive forest inventory of a small area for harvesting purposes (1).

Individual stands are mapped, with estimates given for each stand.

**Ownership**

**Native Land:** Land within an Indian Reserve or Indian Settlement. Could be extended to other Native groups (e.g. Inuit, Metis) if circumstances and land settlements require.

**Other Federal Land:** Crown land within the jurisdiction of the federal government except for land under the jurisdiction of the Department of Indian and Northern Affairs. Includes National Parks, National Defense, Transportation, and Crown Corporations.

**Provincial/Territorial Land:** Crown land within the jurisdiction of a provincial or territorial government or Northern Affairs of the Department of Indian and Northern Affairs.

**Private Land:** Land that is not the property of the Crown (1).

**Industrial Private Land:** Land owned by a large corporate industry for commercial forestry purposes.

**Nonindustrial Private Land:** Land owned by corporations or individuals that may or may not be used for commercial forestry purposes.

**Unspecified Private:** Land owned by corporations or individuals at an unknown scale of operation.

**Municipal Land:** Land that is the property of a municipality or other government agency.

**Status**

**Reserved (Land):** Forest land that by law is not available for the harvesting of forest crops (1).

**Nonreserved (Land):** Forest land that by law is available for the harvesting of forest crops (1).

**Assigned (Land):** Crown-owned forest land no longer under the direct, immediate control of the Crown (1).

Includes Crown Land that has been leased or licensed to private agencies.

**Retained (Land):** Crown-owned forest land under the direct, immediate control of the Crown (1).

**Other Nonreserved (Land):** Private forest land that is available for harvesting forest crops.

**Land Class**

**Nonforest Land:** Land not primarily intended for growing, or not supporting, forest (1).

Includes urban parks and gardens, orchards, wooded pastures and range lands.

**Forest Land:** Land primarily intended for growing, or currently supporting, forest (1).

Includes land not now forested, e.g. clear-cut lands; northern lands that are forested but not intended for any use; and plantations.

**Unproductive:** Forest land that is incapable of producing a merchantable stand within a reasonable length of time (1).

Includes muskeg, rock, barrens, marshes, meadows, etc. within forest land area.

**Productive:** Forest land that is capable of producing a merchantable stand within a reasonable length of time (1).

**Site Quality**

**Site Quality:** A measure of the relative productive capacity of a site for one or more species (1).

Two principal measures are site capability and site index.

**Site Index:** An expression of forest site quality based on the height, at a specified age, of dominant and codominant trees in a stand (1).

May be grouped into site classes. Expressed in metres. Usually refers to a particular species.

**Site Class:** Any interval into which the site index range is divided for purposes of classification and use (1).

**Stocking Class**

**Stocking:** A qualitative expression of the adequacy of tree cover on an area, in terms of crown closure, number of trees, basal area, or volume, in relation to a preestablished norm (1).

In this context "tree cover" includes seedlings and saplings, hence the concept carries no connotation of a particular age.

Degree of stocking may be classified as:

(a) Stocked versus nonstocked;
(b) Understocked, fully stocked, or overstocked. It may also be expressed as a percentage of the preestablished norm or stocking factor.

**Stocked Forest Land:** Land supporting tree growth (1). In this context, tree growth includes seedlings and saplings.

**Unquantified stocked:** Stocked forest land but division into partially or fully stocked is not available.

**Fully stocked:** Stocked forest land where yield is generally reasonable for extensive management and treatment is generally not considered. Includes some under- and overstocking.

**Partially stocked:** Stocked forest land where yield is significantly reduced and treatment may be considered.

**Unproven stocking:** Forest land that has had the tree cover removed or killed and the subsequent degree of stocking has not been assessed. There is a lag time after disturbance before stocking can be established and recognized.

**Nonstocked Forest Land:** Land capable of producing but generally lacking in tree growth (2).

**Cause of Disturbance**

**Cutover:** An area of forest land from which some or all the timber has recently been cut (1).

**Burn (Burned-over):** Land which has recently been burned (1).

**Pests:** Forest land on which some or all trees have been killed by insects or disease.

**Age Class**

**Age:**

(a) Of a tree

**Breast Height:** The number of annual growth rings between the bark and the pith, as counted at breast height (1).

**Stump:** The number of annual growth rings between the bark and the pith, as counted at stump height (1).

**Total:** The number of years elapsed since the germination of the seed, or the budding of the sprout or root sucker (2).

(b) Of a forest, stand or forest type, the mean age of the trees comprising it (3).

In practice, in an even-aged or regular forest, the average age of dominant trees, taken from the year in which the forest was formed, i.e. exclusive of the age of any nursery stock.

**Age Class:** Any interval into which the age range of trees, forests, stands or forest types is divided for classification and use. Also the tree, forest, stand or forest type falling into such an interval (1).

**Maturity Class**

**Regeneration:** The renewal of a forest crop by natural or artificial means also the new crop so obtained (4). The new crop is generally less than one metre in height (1).
In this context it is the new crop, not the act of renewal, that is being described.

**Immature:** In even-aged management, those trees or stands that have grown past the regeneration stage but are not yet mature.

**Mature:** In even-aged management, those trees or stands that are sufficiently developed to be harvestable and that are at or near rotation age (includes overmature trees and stands if an overmature class has not been recognized).

**Overmature:** In even-aged management, those trees or stands that have grown past the mature stage.

**Even-aged:** Of a forest, stand or forest type in which relatively small age differences exist between individual trees (1).

The differences in age permitted are usually 10 to 20 years; if the stand will not be harvested until it is 100 to 200 years old, larger differences up to 25% of the rotation age may be allowed.

**Uneven-aged:** Of a forest, stand, or forest type in which intermingling trees differ markedly in age (1).

The differences in age permitted in an uneven-aged stand are usually greater than 10-20 years.

**Forest Composition**

**Forest type:** A group of forested areas or stands of similar composition which differentiates it from other such groups (1).

**Softwood:** A forest type in which 76-100% of the canopy is coniferous.

**Mixedwood:** A forest type in which 26-75% of the canopy is coniferous.

**Hardwood:** A forest type in which 0-25% of the canopy is coniferous.

**Predominant Genus:** The most abundant genus in the cover type description.

**Forest Composition:** A cover type description consisting of the Forest Type and Predominant Genus.